Economics

Degrees Offered

- Master of Arts
- Doctor of Philosophy

Nature of the Program

The master of arts and doctor of philosophy degrees in economics enable students to broaden and refine their knowledge of the concepts and methods of economic analysis. These programs are designed to prepare students for careers in higher education, government, and business. Student programs are planned with the assistance of a faculty advisor and approval of the director of graduate programs. Additional information about the graduate programs in economics and the regulations and requirements pertaining to them is available at http://www.be.wvu.edu/phd_economics/index.htm. Students are bound by these regulations and requirements, as well as those of the College of Business and Economics.

Prerequisites

Applicants with a bachelor's degree may apply directly to the M.A. or Ph.D. program. To be admitted as a regular M.A. or Ph.D. student, applicants must have a grade point average of 3.0 or better for all undergraduate work completed. Applicants must also complete the general aptitude portion of the Graduate Record Examination (GRE) and receive a minimum combined score of 300 for the verbal and quantitative sections and a minimum score of 3.0 for the analytical writing section. International students must submit their scores on the Test of English as a Foreign Language (TOEFL) or, alternatively, the scores on the International English Language Testing System (IELTS). In addition, applicants must have completed at least one semester of each of the following courses: intermediate microeconomic theory, intermediate macro-economic theory, calculus, and statistics. Applicants not meeting these entrance requirements may be admitted on a provisional and/or deficiency basis, subject to certain performance conditions during their first semester in residence.

Assistantships

Virtually all full-time students newly accepted into the Ph.D. program are offered a graduate assistantship, which includes a cash stipend and tuition waiver. Graduate assistants engage in research and teaching activities under the supervision of a faculty member. Assistantships are evaluated and renewed each year for four years, so long as the student remains full-time, in good standing, and performs duties satisfactorily. A fifth year is also typically available to full-time students who are making satisfactory progress on their dissertations. The faculty of the Department of Economics also nominates outstanding applicants for university fellowships. Special scholarships are available on a competitive basis to minority students. For further information, see http://www.be.wvu.edu/phd_economics/prospective.htm.

Academic Standards

To qualify for a graduate degree in economics, students must earn a cumulative grade point average (GPA) of 3.0 or better for all courses completed as a graduate student at WVU. A regular graduate student in economics whose cumulative GPA falls below 3.0 (B) upon completion of the first nine hours of graduate study is not in good-standing and will be placed on probation at the end of the semester in which the GPA fell below 3.0. Such a student, placed on probation, who fails to raise his or her cumulative GPA to 3.0 by the end of the semester succeeding that in which his or her GPA fell below 3.0 is subject to suspension from the program at the end of that probationary semester.

Other academic reasons for suspension from the program include failing grades on more than fifty percent of the coursework taken in any semester, a third failure on either a microeconomic theory or macroeconomic theory comprehensive examination, or failure to complete all degree requirements within the specified time limits.

FACULTY

CHAIR

- Joshua Hall - Ph.D. (West Virginia University)
  Public Economics, Public Choice, Urban and Regional Economics

PROFESSORS

- Roger Congleton - Ph.D. (Virginia Polytechnic Institute and State University)
  Public Economics, Public Choice, Constitutional Political Economy
- Joshua Hall - Ph.D. (West Virginia University)
  Public Economics, Public Choice, Urban and Regional Economics
- Brad Humphreys - Ph.D. (Johns Hopkins University)
  Urban and Regional Economics, Sports Economics
Economics

- Feng Yao - Ph.D. (Oregon State University)
  Theoretical Econometrics, Applied Econometrics

ASSOCIATE PROFESSORS
- Arabinda Basistha - Ph.D. (University of Washington)
  Empirical Macroeconomics, International Finance
- John Deskins - Ph.D. (University of Tennessee)
  Public Economics
- Bryan McCannon - Ph.D. (Pennsylvania State University)
  Public Economics, Public Choice, Law and Economics
- Shuichiro Nishioka - Ph.D. (University of Colorado at Boulder)
  International Trade, Economic Development
- Adam Nowak - Ph.D. (Arizona State University)
  Applied Econometrics, Urban and Regional Economics
- Eric Olson - Ph.D. (University of Alabama)
  Empirical Macroeconomics, Monetary Economics, Financial Economics
- Jane Ruseski - Ph.D. (Johns Hopkins University)
  Health Economics, Sports Economics
- Scott Schuh - Ph.D. (Johns Hopkins University)
  Applied Macroeconomic Theory, Monetary Economics, Household Finance

ASSISTANT PROFESSORS
- Daniel Grossman - Ph.D. (Cornell University)
  Health Economics
- Alexander Lundberg - Ph.D. (Emory University)
  Law and Economics, Public Economics

PROFESSORS EMERITI
- Robert Britt
- Brian Cushing
- Stratford Douglas
- Clifford Hawley
- Ming-Jeng Hwang
- Patrick Mann
- William Reece
- Tom Witt

ADJUNCT PROFESSORS
- Victor Chow - Ph.D. (University of Alabama)
- Randall Jackson - Ph.D. (University of Illinois at Urbana-Champaign)
- David Martinelli - Ph.D. (University of Maryland)
- Timothy Phipps - Ph.D. (University of California)
- Peter Schaeffer - Ph.D. (University of Southern California)
- Paul Speaker - Ph.D. (Purdue University)

Admissions
The Department of Economics accepts applications for the Master of Arts degree. The admissions requirements for the Masters of Arts degree are the same as those for admission to the Ph.D. program. In addition, students who have first been admitted into the Doctor of Philosophy in Economics program with the intention of earning a doctorate may apply for the Masters degree either as a “milepost” on their way to the Ph.D. or as a degree in lieu of the Ph.D. when leaving the program.

Economics Master of Arts Requirements
Overall 3.0 GPA required

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ECON 701</td>
<td>Advanced Micro-Economic Theory 1</td>
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<tr>
<td>ECON 702</td>
<td>Advanced Macro-Economic Theory 1</td>
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</table>
**SUGGESTED PLAN OF STUDY**

**First Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ECON 701</td>
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<td>4 ECON 711</td>
<td>4</td>
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<tr>
<td>ECON 702</td>
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<td>ECON 721</td>
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<td>ECON 725</td>
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<td><strong>Spring</strong></td>
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<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Fall</td>
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<td>3 Select one of the following</td>
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<tr>
<td>ECON 726</td>
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<td>3 Thesis Option</td>
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<tr>
<td>Elective</td>
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<td>ECON 795 (7 credits)</td>
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<td>Elective</td>
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<td>Final Oral Examination</td>
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<td>Non-Thesis Option</td>
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<td></td>
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<td>700-level concentration courses (6 credits)</td>
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<td>ECON 795 (1 credit/Research Paper)</td>
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<td><strong>Spring</strong></td>
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<td><strong>Total</strong></td>
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</table>

**Total credit hours: 37**

**Doctor of Philosophy**

The Ph.D. degree is not awarded for the mere accumulation of course credits nor for the completion of the specified residence requirements. At least four years of full-time graduate work beyond the baccalaureate degree are usually required to complete the doctorate. A minimum of two consecutive semesters in actual residence as a full-time graduate student is required.

**CURRICULUM REQUIREMENTS**

Minimum 3.0 GPA required

**Core Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ECON 701</td>
<td>Advanced Micro-Economic Theory 1</td>
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<td>ECON 702</td>
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<tr>
<td>ECON 709</td>
<td>Research Design and Methodology</td>
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<td>ECON 711</td>
<td>Advanced Micro-Economic Theory 2</td>
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<td>ECON 712</td>
<td>Advanced Macro-Economic Theory 2</td>
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<tr>
<td>ECON 721</td>
<td>Mathematical Economics</td>
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<tr>
<td>ECON 725</td>
<td>Econometrics 1</td>
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ECON 726  Econometrics 2  3
ECON 727  Econometrics 3  3
Complete two required Area of Emphasis  12
700-level ECON electives (minimum grade of B- required)  6
Dissertation  45

**COMPREHENSIVE EXAMINATIONS**

Students must pass written comprehensive examinations in microeconomic theory and macroeconomic theory. For detailed rules, see the Rules and Regulations (https://business.wvu.edu/graduate-degrees/phd-economics/current-student-resources/rules-and-regulations) page on our website.

**DISSERTATION INITIAL PROGRESS REPORT**

By the end of the first semester of their third year in the Program each student must file a completed Dissertation Initial Progress Report, signed by the student's faculty dissertation advisor and the Economics Graduate Coordinator. The Dissertation Initial Progress Report must contain evidence that the student has performed substantial initial work on his or her dissertation research. Such evidence should include a title, an outline of the proposed dissertation, a review of relevant literature, a description of the sources, availability, and characteristics of any data the student plans to analyze in the dissertation, and a discussion of empirical and analytical methods the student plans to employ. It should also include drafts of completed chapters, if any, and any other materials deemed relevant by the student's faculty advisor. The faculty advisor's signature will signify that the advisor has reviewed the material and consulted with the student, and believes the student's dissertation research project is sufficiently detailed, concrete, and significant as to show promise of ultimate success. The Graduate Coordinator's signature will attest that the Dissertation Initial Progress Report is complete and satisfactory.

**CANDIDACY AND DISSERTATION**

When an applicant has passed the written comprehensive examinations and submits a Dissertation Initial Progress Report approved by the Economics Graduate Coordinator, the applicant will be formally promoted to candidacy for the Ph.D. degree. The candidate must submit a dissertation pursued under the supervision of a member of the graduate faculty in economics on some problem in the area of the candidate's major interest. The dissertation must present the results of the candidate's individual investigation and must embody a definite contribution to knowledge. It must be approved by a committee of the graduate faculty in economics. After approval of the candidate's dissertation and satisfactory completion of other graduate requirements, a final oral examination on the dissertation is required.

Each Ph.D. candidate is required to present a dissertation proposal to the graduate director after approval by at least three members of his or her dissertation committee including the chairperson. This proposal will include a statement of the problem (topic summary), a preliminary survey of the literature, a description of the research methodology, and other pertinent material. With the approval of the graduate director, the student is then required to present the proposal in a faculty-student seminar. Credit for dissertation research and writing is available under ECON 797, but only if the student has a dissertation chairperson and an approved topic.

**SUGGESTED PLAN OF STUDY**

### First Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hours</th>
<th>Course 1</th>
<th>Hours</th>
<th>Course 2</th>
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<tr>
<td>Fall</td>
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<td>ECON 721</td>
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### Second Year

<table>
<thead>
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<th>Hours</th>
<th>Course 1</th>
<th>Hours</th>
<th>Course 2</th>
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<td>ECON 727</td>
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### Third Year

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<th>Semester</th>
<th>Hours</th>
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<tr>
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<td></td>
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Elective Course 2 3

Total credit hours: 45

* Six semester hours (or the equivalent) must be taken in each of the student’s two Areas of Emphasis. The Areas of Emphasis offered by the Department are international economics, monetary economics, public economics, regional and urban economics, and resource economics. Other fields, conducted in cooperation with other units on campus, may possibly be approved in unusual cases. Only one of the Areas of Emphasis may be in an outside area; selection must be approved by the graduate economics faculty.

** Students must complete two additional three-hour 700-level elective courses in Economics in addition to their core courses, field courses, ECON 795, and ECON 797.

Health Economics Area of Emphasis Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ECON 765</td>
<td>Health Economics 1</td>
<td>3</td>
</tr>
<tr>
<td>ECON 766</td>
<td>Health Economics 2</td>
<td>3</td>
</tr>
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</table>

Total Hours 6

International Economics Area of Emphasis Requirements

Select 2 of the following

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>ECON 751</td>
<td>International Trade</td>
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<tr>
<td>ECON 752</td>
<td>International Macro-Economics</td>
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<tr>
<td>ECON 754</td>
<td>Comparative Economic Systems</td>
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<tr>
<td>ECON 755</td>
<td>Development Economics</td>
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Total Hours 6

Monetary Economics Area of Emphasis Requirements

<table>
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<tr>
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<tr>
<td>ECON 731</td>
<td>Monetary Economics 1</td>
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<tr>
<td>ECON 732</td>
<td>Monetary Economics 2</td>
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Total Hours 6

Public Economics Area of Emphasis Requirements

Select 2 of the following

<table>
<thead>
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<tr>
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<td>Public Economics 1</td>
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<tr>
<td>ECON 742</td>
<td>Public Economics 2</td>
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<tr>
<td>ECON 743</td>
<td>State and Local Public Economics</td>
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Total Hours 6

Regional and Urban Economics Area of Emphasis Requirements

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<tr>
<td>ECON 761</td>
<td>Advanced Regional Economics</td>
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<tr>
<td>ECON 762</td>
<td>Advanced Urban Economics</td>
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Total Hours 6

Resource Economics Area of Emphasis Requirements

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<th>Course</th>
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<tr>
<td>ARE 703</td>
<td>Advanced Natural Resource Economic Theory</td>
<td></td>
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<tr>
<td>ARE 710</td>
<td>Advanced Environmental Economics</td>
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</table>

Total Hours 6

Major Learning Outcomes

ECONOMICS

The doctoral program in economics trains students to 1) conduct independent and original research in economics of publishable quality; 2) analyze questions of interest to economists and policymakers, employing tools and methods of theoretical and empirical economics in a manner that meets or
exceeds the expectations of the economics profession for a doctorate in economics; and 3) effectively communicate both what economists in general know and the fruits of the student's own research.

- Students will demonstrate the ability to teach, at any undergraduate level or beyond, core courses in economics and courses in at least two areas of specialization within economics.
- Students will produce research papers that lead to refereed publications in economics journals.
- Students will demonstrate the ability to apply the methods and insights of economics in ways that are valued by society.

COURSES

ECON 501. Economic Decision Making. 3 Hours.
PR: ECON 201 and ECON 202. Theory of demand and supply including cost determination, markets and pricing, regulatory economics, national income accounting, the assessment of economics impacts via the multiplier principle, monetary policy, and taxation policy.

ECON 590. Teaching Practicum. 1-3 Hours.
PR: Consent. Supervised practice in college teaching of economics. Note: This course is intended to insure that graduate assistants are adequately prepared and supervised when they are given college teaching responsibility. It will also present a mechanism for students not on assistantships to gain teaching experience. (Grading will be P/F.).

ECON 591. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

ECON 595. Independent Study. 1-6 Hours.
Faculty supervised study of topics not available through regular course offerings.

ECON 693. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.

ECON 695. Independent Study. 1-6 Hours.
Faculty supervised study of topics not available through regular course offerings.

ECON 697. Research. 1-15 Hours.
PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading may be S/U.).

ECON 701. Advanced Micro-Economic Theory 1. 4 Hours.
PR: Consent. Theory of production and allocation, utility theory, theory of the firm, pricing in perfect and imperfect markets, models of firm's operations.

ECON 702. Advanced Macro-Economic Theory 1. 3 Hours.

ECON 706. History of Economic Doctrines and Analysis. 3 Hours.
PR: ECON 701 and graduate standing or consent. Writings of the major figures in the development of economic doctrines and analysis.

ECON 709. Research Design and Methodology. 1-3 Hours.
PR: Consent. Basic research approaches based on examples from the student's own work, papers presented at the departmental research seminar series, and economics literature in general.

ECON 711. Advanced Micro-Economic Theory 2. 4 Hours.
PR: ECON 701. General equilibrium analysis, distribution economics.

ECON 712. Advanced Macro-Economic Theory 2. 3 Hours.
PR: ECON 702. Models of economic growth and fluctuations, and other advanced topics in macroeconomic theory.

ECON 721. Mathematical Economics. 3 Hours.
PR: Consent. Mathematics used in economics.

ECON 723. Dynamic Methods of Economics. 1 Hour.
PR: ECON 721. This course covers the basic techniques of dynamic economic analysis that economics graduate students will be working with in advanced economic theory and field courses.

ECON 725. Econometrics 1. 3 Hours.
PR: ECON 721. Mathematical statistics, including probability, mathematical expectation, distributions. Linear regression, ordinary least squares and simple extensions. Students will use a computer to analyze data.

ECON 726. Econometrics 2. 3 Hours.
PR: ECON 725. Econometric methods used by practicing economist. Includes simultaneous equations, asymptotic properties of estimators, and generalizations of and alternatives to least squares estimation. Also may include qualitative response, panel data, nonlinear, spatial, and time series models.
ECON 727. Econometrics 3. 3 Hours.
PR: ECON 726. Completes the graduate econometrics sequence. Topics may include computational methods and time series, spatial, nonlinear, qualitative response, and panel data models.

ECON 729. Spatial Econometrics. 3 Hours.
Explores the various types of spatial econometric models and how they are estimated and interpreted. Maximum likelihood and Bayesian methodologies will be demonstrated both mathematically and in an applied setting.

ECON 731. Monetary Economics 1. 3 Hours.
PR: ECON 702. Sources and determinants of supply of money; demand for money for transactions and speculative purposes; general equilibrium of money, interest, prices, and output; role of money in policy.

ECON 732. Monetary Economics 2. 3 Hours.
PR: ECON 731. Further topics in monetary economics.

ECON 739. Seminar in Financial Economics. 3 Hours.
PR: ECON 735 and ECON 736 or consent. Covers advanced topics in financial economics such as pricing of derivatives and issues in corporate finance.

ECON 741. Public Economics 1. 3 Hours.
PR: ECON 701. Economic role of government in a mixed economy with regard to topics such as resource allocation and distribution of income; social choice mechanisms; fiscal federalism; and revenue.

ECON 742. Public Economics 2. 3 Hours.
PR: ECON 741. Continuation of public economics.

ECON 743. State and Local Public Economics. 3 Hours.
PR: ECON 741 and ECON 742 or consent. Economic roles of state and local governments emphasizing empirical research and policy implications. Particular attention to intergovernmental competition, government performance, service provision, and revenue sources.

ECON 751. International Trade. 3 Hours.
PR: ECON 701. Contemporary theories of international trade; analysis of current problems in world trade.

ECON 752. International Macro-Economics. 3 Hours.
PR: ECON 702. Current theories and policies concerning balance of payments, international capital movements, and foreign exchange, and their relation to the macro economy.

ECON 754. Comparative Economic Systems. 3 Hours.
PR: ECON 701. Comparative study of economic systems, including planned and market socialism and capitalism and the experience of countries in transition from socialism to capitalism.

ECON 755. Development Economics. 3 Hours.
PR: ECON 701. This course explores why some countries are rich and others are poor. Class examines the major phases of thinking in development economics and themes in the contemporary development literature.

ECON 761. Advanced Regional Economics. 3 Hours.
PR: ECON 701 and graduate standing or consent. Regional income and flow of funds estimation, regional cyclical behavior and multiplier analysis, industrial location and analysis, techniques of regional input-output measurement, impact of local government reorganization on regional public service and economic development.

ECON 762. Advanced Urban Economics. 3 Hours.
PR: ECON 701. Theory, policy, and empirical research regarding growth and decline of cities, urban spatial structure and land-use patterns, intrametropolitan employment location, urban transportation, housing, housing market discrimination, local government structure, fiscal problems, and urban redevelopment.

ECON 764. Seminar in Regional Economics. 3 Hours.
PR: Consent.

ECON 765. Health Economics 1. 3 Hours.
PR: ECON 701 and ECON 725. Analyzes and evaluates critical questions in health and health care using tools and approaches in economics. Topics covered include: the demand for health and health care; economic approaches to studying healthy and risky behaviors; the economic causes and correlates of risky health behaviors and health disparities; and global health and economic development.

ECON 766. Health Economics 2. 3 Hours.
PR: ECON 701 and ECON 725. Analyzes and evaluates critical questions in health and health care using tools and approaches in economics. Topics covered include: demand for private health insurance; public and private health insurance; hospital ownership and competition among hospitals; markets for physician services; technology, innovation and the pharmaceutical sector; comparative health care systems; government's role, and economic evaluation of health and health care.

ECON 791. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.
ECON 792. Directed Study. 1-6 Hours.
Directed study, reading, and/or research.

ECON 793. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.

ECON 794. Seminar. 1-6 Hours.
Special seminars arranged for advanced graduate students.

ECON 795. Independent Study. 1-9 Hours.
Faculty supervised study of topics not available through regular course offerings.

ECON 796. Graduate Seminar. 1 Hour.
PR: Consent. Each graduate student will present at least one seminar to the assembled faculty and graduate student body of his or her program.

ECON 797. Research. 1-15 Hours.
PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading may be S/U.)

ECON 798. Thesis or Dissertation. 1-6 Hours.
PR: Consent. This is an optional course for programs that wish to provide formal supervision during the writing of student reports (698), or dissertations (798). Grading is normal.

ECON 799. Graduate Colloquium. 1-6 Hours.
PR: Consent. For graduate students not seeking coursework credit but who wish to meet residency requirements, use of the University's facilities, and participate in its academic and cultural programs. Note: Graduate students who are not actively involved in coursework or research are entitled, through enrollment in their department's 699/799 Graduate Colloquium to consult with graduate faculty, participate in both formal and informal academic activities sponsored by their program, and retain all of the rights and privileges of duly enrolled students. Grading is P/F; colloquium credit may not be counted against credit requirements for masters programs. Registration for one credit of 699/799 graduate colloquium satisfies the University requirement of registration in the semester in which graduation occurs.

ECON 930. Professional Development. 1-6 Hours.
Professional development courses provide skill renewal or enhancement in a professional fields or content area (e.g., education, community health, geology). These tuition-waived continuing education courses are graded on a pass/fail grading scale and do not apply as graduate credit toward a degree program.
ECON P111.. 3 Hours.
ECON P125.. 3 Hours.
ECON P201.. 3 Hours.
ECON P202.. 3 Hours.
ECON P225.. 3 Hours.
ECON T100.. 1 Hour.
ECON T107.. 3 Hours.
ECON T201.. 3 Hours.
ECON T202.. 3 Hours.
ECON T225.. 3 Hours.
ECON T231.. 3 Hours.
ECON T232.. 3 Hours.
ECON T235.. 3 Hours.
ECON T240.. 3 Hours.
ECON T250.. 3 Hours.
ECON T260.. 3 Hours.
ECON T301.. 3 Hours.
ECON T320.. 3 Hours.
ECON T323.. 3 Hours.
ECON T331.. 3 Hours.
ECON T335.. 3 Hours.
ECON T337.. 3 Hours.
ECON T345.. 3 Hours.
ECON T346.. 3 Hours.
ECON T347.. 3 Hours.
ECON T348.. 3 Hours.
ECON T350.. 3 Hours.
ECON T357.. 3 Hours.
ECON T360.. 3 Hours.
ECON T370.. 3 Hours.
ECON T401.. 3 Hours.
ECON T430.. 3 Hours.
ECON T431.. 3 Hours.
ECON T435.. 3 Hours.
ECON T449.. 3 Hours.
ECON T450.. 1-3 Hours.
ECON T460.. 1-3 Hours.
ECON T470.. 3 Hours.
ECON T475.. 3 Hours.