

# UNIVERSITY OF HOUSTON GRADUATE STUDY IN ECONOMICS

The Department of Economics offers a program leading to the Ph.D. degree in Economics designed to provide students rigorous training in economic theory and quantitative skills as well as an intensive exposure to several specialized areas of Economics. The Ph.D. training provides skills needed in academic, government, or business careers.

Graduate students in the University of Houston - Department of Economics are subject to all regulations of the Graduate School and the College of Liberal Arts and Social Sciences. The rules are found in the University of Houston Graduate Catalog, which can be found online at [http://www.uh.edu/grad\\_catalog/](http://www.uh.edu/grad_catalog/). The requirements discussed below are additional requirements that apply to graduate students in Economics.

## THE DOCTORAL PROGRAM IN ECONOMICS

The new doctoral student begins a year of intensive course work in microeconomic theory, macroeconomic theory, statistics, and econometrics. During the summer after the first year, the student is required to take both parts of the economic theory comprehensive exams. Upon receiving a grade of "superior" in both the micro and macro parts of the exam, the student becomes a candidate for the Ph.D. degree. The following table outlines the first two years of course work, examination requirements, and dissertation work.

### Ph.D. FIRST YEAR

#### COURSES

##### Fall

7341 Micro Theory I  
7343 Macro Theory I  
7330 Statistical Methods

##### Spring

7342 Micro Theory II  
7344 Macro Theory I  
7331 Econometrics I

Summer: Independent Doctoral Research and Comprehensive Exam Review

EXAMINATIONS: Economic Theory Comprehensive Exams in mid to late June

During the second year, the student takes elective courses in areas including but not limited to: international macro, econometrics, growth, international trade, labor, development, health, industrial organization, public finance, political economy, and urban economics.

The economic theory comprehensive exams are offered again in January of the second year for those students who do not receive a Superior in the summer offering. Students must receive a "superior" grade on both parts of the theory comprehensive exam by January of the second year in order to continue in the Ph.D. program.

The comprehensive exams can only be taken twice.

## Ph.D. SECOND YEAR

### COURSES

Fall	Spring
8331 Econometrics II	elective
elective	elective
elective	elective

Summer: Independent Doctoral Research

EXAMINATIONS: Superior on Economic Theory Comprehensive Exams  
(by January of second year)

In the third year, the student is expected to enroll in elective courses, produce an original research paper, present that original research in the spring Ph.D. workshop, and focus on a dissertation topic area.

The Ph.D. workshop (8361 for 3<sup>rd</sup> year students) is offered to help students move into independent research. The workshop involves faculty-supervised, formal student presentations of original student research. Enrollment in the fall workshop is optional for third year students but enrollment in the spring is required.

A draft of the original research paper is due at the end of the spring semester. The student must identify a committee of three faculty members who will read and evaluate the paper. A final version is due at the time teaching starts in August following the student's third year. The reading committee must provide an evaluation to the Director of Graduate Studies by the week of Labor Day.

## Ph.D. THIRD YEAR

### COURSES

Fall	Spring
elective	elective
elective	elective
elective or 8361 workshop	8361 workshop

Summer: Independent Doctoral Research and polishing of the required third year paper.

DISSERTATION: Designation of Dissertation Chair Recommended

Students in the fourth year are required to take the 8362 workshops. Electives may be substituted for ECON 7301/02 Seminar, if desired. These final years are devoted to research under the supervision of the dissertation committee chair.

### **Ph.D. FOURTH YEAR**

#### **COURSES**

Fall

8362 workshop  
7301/02 seminar  
3 dissertation hours

Spring

8362 workshop  
7301/02 seminar  
3 dissertation hours

Summer: Doctoral Research

DISSERTATION: In Progress

### **Ph.D. FIFTH YEAR**

#### **COURSES**

Fall

8363 workshop  
7301/02 seminar  
3 dissertation hours

Spring

8363 workshop  
7301/02 seminar  
3 dissertation hours

Summer: Doctoral Research

EXAMINATIONS: Oral Dissertation Defense

DISSERTATION: Completion and Graduation

## Degree Requirements

### Ph.D. Requirements

1. 60 hours of course work composed of the following:
  - a. THEORY (12 hours)
    - Micro I, II - ECON 7341, 7342
    - Macro I, II - ECON 7343, 7344
  - b. QUANTITATIVE (9 hours)
    - Statistics                      ECON 7330
    - Econometrics I                ECON 7331
    - Econometrics II                ECON 8331
  - c. Ph.D. SEMINARS IN MICRO (7301) OR MACRO (7302) (6 hours)
  - d. ECON 8361/8362/8363 is required every semester beginning in the Spring of the third year and continuing until the Ph.D. is awarded. Maximum credit towards the Ph.D. is 6 hours.
  - e. ELECTIVES (33 hours)

A maximum of 12 hours of electives may be taken as Readings (independent study) courses, Ph.D. workshops taken in the third year, and courses taken outside the department. Additional hours may be allowed subject to the discretion of the graduate director. These 12 hours are subject to the following restrictions:

    - 6 hours maximum in Readings (independent study) courses (ECON 7390)
    - 6 hours maximum for Ph.D. Workshops (ECON 8361 and 8362) taken in the third year
    - 6 hours maximum (subject to the discretion of the graduate director) for courses taken outside the department
2. Grade point average in graduate classes of at least 3.0 (4.0=A)
3. Grade of superior on both parts of the theory comprehensive exam.
4. Doctoral research and dissertation hours do not count toward the 60 hours of course work.
5. Successful completion of 3<sup>rd</sup> year original research paper. This paper will be evaluated by a committee of 3 faculty members who have agreed to participate. The student is responsible for finding committee members. The paper has to show substantial effort in order for the student to be deemed to make satisfactory progress in the program.

6. Successful completion and defense of the dissertation.

The dissertation will be supervised by a committee agreed upon by the student, the primary faculty dissertation advisor, and the graduate director. Typically, the committee is composed of the primary faculty advisor (committee chair), two other faculty advisors from the department, and one member from outside the department.

The Ph.D. degree is awarded when the student has successfully defended the dissertation before the graduate faculty of the department and turned in the completed thesis to the appropriate university office.

### **M.A. Requirements**

For students who decide to leave the program before fulfilling the Ph.D. or do not fulfill the requirements to continue in the Ph.D. program, an M.A. degree will be awarded upon the completion of the following requirements.

1. 36 hours of course work composed of the following:
  - a. THEORY (12 hours)  
Micro I, II      ECON 7341, 7342  
Macro I, II      ECON 7343, 7344
  - b. QUANTITATIVE (9 hours)  
Statistics              ECON 7330  
Econometrics I        ECON 7331  
Econometrics II        ECON 8331
  - c. ELECTIVES (15 hours)  
3 hours maximum in readings courses (ECON 7390)  
3 hours maximum (subject to the discretion of the graduate director) for courses taken outside the department
2. Grade point average in graduate courses of at least 3.0 (4.0=A).
3. Grade of pass or better on both parts of the theory comprehensive examination.
4. Doctoral research hours do not count toward the 36 hours of course work.

### **COURSE LOAD**

All graduate students receiving financial aid from the department are required to register for nine hours each semester during the regular academic year and six hours in the summer (if they are funded for the summer).

Full-time graduate students not receiving financial aid must register for a minimum of 9 hours each semester during the regular academic year.

## **COMPREHENSIVE EXAMINATION IN ECONOMIC THEORY**

A written examination in micro and macro theory is required after the completion of the second regular semester of full-time course work. The theory examination is given in late June after the student's first year. The exam is offered again in January of the second year. The exam grade determines advancement to Ph.D. candidacy and financial aid status. Theory exam performance is ranked on the following scale:

**Superior.** The student satisfies the exam requirement for the M.A. degree and can be admitted to candidacy to the Ph.D. program in economics. A grade of "superior" on both parts of the comprehensive exam is required for admission to candidacy in the Ph.D. program.

**Good.** The student satisfies the exam requirement for the M.A. degree and is encouraged to retake the exam in January.

**Pass.** The student satisfies the exam requirement for the M.A. degree and is allowed to retake the exam in January.

**Fail.** The student does not satisfy the exam requirement for the M.A. degree but is allowed to retake the exam in January.

## **LEAVE OF ABSENCE**

A student may apply for a leave of absence if he or she intends to withdraw from the department for a specific period of time after which studies will be resumed. A leave of absence is only granted for a stated time period, not to exceed one year, except for military service. A previously enrolled student who is not currently registered in the Department, and has not applied for a leave of absence, will be automatically dropped from the program. To resume academic work, the dropped student must apply for reinstatement to the graduate program. The university may also impose a financial penalty.

## **CHANGE IN REQUIREMENTS**

Students may petition the graduate director for permission to deviate from particular program requirements. Such petitions must be in writing and should include a justification for the proposed change.

## **TRANSFER OF CREDITS**

The Economics department allows a maximum of 6 hours to be transferred from graduate courses taken at other schools toward an M.A. in Economics. The graduate director will determine the transferability of credits. The university allows more credits to be transferred toward a Ph.D. at the discretion of the graduate director.

The department encourages students who have received their M.A. elsewhere to enroll in the Ph.D. program. If a student has an M.A. in Economics from another university, equivalent courses may be waived and credit transferred toward a Ph.D. However, the doctoral transfer

student must receive a grade of superior on both parts of the theory examination administered by the University of Houston Economics Department.

## **ADMISSION TO THE PHD PROGRAM IN ECONOMICS**

Application Deadline: February 1 to be considered for a graduate assistantship, and May 1 for fall enrollment without an assistantship. Applications are not accepted for spring or summer enrollment. The application deadline may be extended under exceptional circumstances. Please contact the Graduate Program Administrator, Department of Economics, Houston, Texas 77204-5019 or email [apoza@uh.edu](mailto:apoza@uh.edu). For information on applying to the University of Houston, visit <http://www.uh.edu/graduate-school/prospective-students/how-to-apply/>.

To be admitted to the graduate program, a student

1. must receive a satisfactory score on the Verbal and Quantitative sections (minimum score of 300 required) of the Graduate Record Examination (GRE).
2. whose native language is not English must receive a score of at least 79, 213, or 550 on the Test of English as a Foreign Language (TOEFL) or an overall score of 6.5 on the IELTS. This requirement is waived for students with a degree from a U.S. college or university.
3. must satisfy the requirements of the Graduate School and the College of Liberal Arts and Social Sciences.
4. must be accepted by the Graduate Faculty of the Department of Economics.

Previous undergraduate specialization in economics is not required, but at a minimum, entering students should have successfully completed courses in intermediate micro theory, intermediate macro theory, and basic mathematics such as calculus and matrix algebra. Students with deficiencies in any of these areas should remedy them before applying to the program. These courses can be taken at UH or any university that offers them. All transcripts or a letter stating the courses currently attending must be submitted to the department.

1. Intermediate Economic Theory (ECON 3332 & 3334)
2. Mathematics

Calculus I (MATH 1431) and Linear Algebra (MATH 2331) required.

Calculus II and III (MATH 1432, 2433) strongly recommended.

Credit will not be given toward the M.A. or Ph.D. for courses taken to satisfy mathematics deficiencies.

## **OFFICE SPACE AND FACILITIES**

The Department provides most funded graduate students with office space for study and interaction with other students. The department also runs a fully equipped graduate student

computer lab with state-of-the-art personal computers and software.

## **FINANCIAL AID**

The department offers several assistantships for academic support, research, or teaching in the first year. These positions pay a monthly stipend and allow tuition to be waived and fees to be paid at in-state rates. These stipends cover the 9-month school year and very often some or all of the summer months. Summer support, however, is not guaranteed. All financial support is allocated by the department graduate director and is contingent upon available funding.

In return for financial support, and as part of graduate training in economics, graduate assistants help with instruction and research. Compensation is directly related to hours of work and level of responsibility. Teaching assistants work 12 hours per week supporting faculty teaching and research. Teaching fellows teach a section of introductory economics. All assistantships are awarded on a competitive basis under the following guidelines:

**Entering Students.** Only students with outstanding transcripts, GRE scores and other favorable credentials are offered aid in the first year. The Graduate Committee allocates these assistantships. Supplemental funding is also available, on a competitive basis, from the Office of Graduate and Professional Studies.

**Second through Fifth Year.** Any full time student on financial aid making satisfactory progress in the program is assured partial aid in the second through the fourth year.

A student who was awarded aid in the first year will receive aid in the second year if the student has taken the theory exams and maintained a 3.0 grade point average. Students who receive a superior on the theory examination and maintain good progress will receive financial aid in their third and fourth years. Aid in the fifth year is provided if the candidate is making good progress on the dissertation.

Only senior graduate students with the requisite academic performance and communication skills are assigned as teaching fellows.

**Responsibilities and Progress.** Students are expected to perform their research and teaching responsibilities in a professional manner. Poor performance can result in the loss of financial aid.



## **THE DEPARTMENT OF ECONOMICS**

Since its inception in 1958, the University of Houston Economics Doctoral Program has prided itself on training economists to take positions in academia, business, and government. The faculty is a young and dynamic community of research economists. In studies of research productivity, the Department has been ranked among the top 40 economics departments in the United States.

The Department of Economics also includes 2 Masters programs:

The Master of Arts in Applied Economics is a 1 year (3 semester) program.

The Master of Arts in Economics Degree of UH at the Kyiv School of Economics offers a UH degree to students studying in Ukraine.

## **GRADUATE PROGRAM ADMINISTRATORS**

The Director of Graduate Studies provides general advising to enrolled graduate students and manages all aspects of the economics graduate program.

The Graduate Program Administrator is a full-time staff member who handles the administrative functions of the graduate program such as emailing information to prospective students, maintaining admission files, maintaining current students' files, and certifying the completion of degree requirements.

## **THE UNIVERSITY OF HOUSTON**

Ranked among the top 50 research universities in the United States, the University of Houston is a state funded institution serving a diverse student body. The University of Houston is the largest of the four campuses within the University of Houston System with a total enrollment of about 35,000 students.

The main library at the University of Houston houses about 1.4 million volumes and is part of the Texas University Library Consortium and the Houston Area Research Library Consortium. Located on 450 beautifully landscaped acres, just southeast of downtown Houston, the University campus offers extensive student services and housing. The campus supports many popular sporting and cultural events, all easily accessible to graduate students.

## **THE CITY OF HOUSTON**

Houston is the nation's fourth largest city. Houston is incredibly diverse and international, but the city also reflects the native Texas "can do" spirit. One of the nation's largest seaports, Gulf Coast beaches and recreation areas are within an hour's drive of the city. The local economy is expanding, diverse, and international. In addition to oil and manufacturing, the city is a leader in finance, health care, retailing, engineering, construction and international trade. The Johnson Space Center develops and coordinates NASA's manned space flights. The Texas Medical Center is internationally famous for medical research, education and patient care. Two commercial airports serve the Houston metropolitan area.

Houston offers an enormous range of entertainment, shopping, restaurants, and arts scene. The opera, ballet, modern dance and theater companies are nationally recognized. Houston is home to professional football, baseball, basketball, soccer, and hockey. Outstanding University of Houston and Rice University collegiate teams compete as well.

## **BASIC GRADUATE ECONOMICS COURSES**

### **ECON 7301: Seminar in Current Microeconomic Research**

May be repeated with consent of instructor.

### **ECON 7302: Seminar in Current Macroeconomic Research**

May be repeated with consent of instructor.

### **ECON 7330: Quantitative Economic Analysis (formerly ECON 6331)**

Statistical basis for applied economic analysis, which includes discrete and continuous distributions, point estimation, tests of hypotheses, methods of estimation and properties of estimators.

### **ECON 7331: Econometrics I**

Regression analysis and the general linear model. Topics covered include ordinary least squares, heteroskedasticity, autoregression, distributed lags, and generalized least squares.

### **ECON 7335: Applied Econometrics (prev. offered as Topics course)**

Econometrics techniques for applied microeconomic research. Topics include randomized experiments, matching techniques, fixed effects models, differences-in-differences, instrumental variables, and regression discontinuity designs.

### **ECON 7340: Economic Growth and Development I (prev. offered as Topics course)**

Long-run economic growth from pre-industrial agricultural economies to modern industrial capitalism. Topics include technology acquisition, accumulation of capital, demographic transition, institutional and geographic factors in development and income distribution.

### **ECON 7341: Microeconomic Theory I (formerly ECON 6342)**

Contemporary microeconomic theory of decision and allocation in a market economy. Topics include theories of the consumer, the firm, and competitive markets under complete and incomplete information.

### **ECON 7342: Microeconomic Theory II**

Continuation of ECON 7341. Topics include market structure, centralized and decentralized decisions, alternative allocation mechanisms, contracts, capital theory, general equilibrium.

### **ECON 7343: Macroeconomic Theory I (formerly ECON 6344)**

Analytic tools of contemporary macroeconomics, including static analysis of classical and Keynesian models and the aggregate behavior of consumers, investors, and asset holders.

### **ECON 7344: Macroeconomic Theory II**

Continuation of ECON 7343. Topics include dynamic analysis, long run growth, stochastic macroeconomics, and theories of expectations. Emphasis on recent literature in macroeconomic theory.

### **ECON 7349: Game Theory and Economic Behavior**

Modeling and analysis of strategic situations. Topics include cooperative game theory, simultaneous-move games and Nash equilibrium, sequential-move games and subgame perfect equilibrium, and applications.

**ECON 7350: Economic Growth and Development II**

Advanced macroeconomics course on long-run economic growth and international development. Study of the interaction between factor flows, trade, capital markets and the growth process. Topics include property right institutions, corporate governance and government regulation.

**ECON 7351: Development Economics: Microeconomic Issues**

Examines the micro foundations of economic development, including education, health, the family, land, credit, risk and institutions. Teaches econometric tools that have been used by researchers to identify causal relationships, including panel data, instrumental variables, randomized experiments and natural experiments.

**ECON 7355: International Finance and Macroeconomics (prev. offered as Topics course)**

International finance and open economy macroeconomics. Review of theoretical and empirical literature. Includes writing referee reports for peer reviewed journal articles, seminar presentations and development of critical analytical skills.

**ECON 7362: Computational Economics**

This course explores economic modeling using computational methods. Topics include algorithms for solving models, the numerical analysis of results, and the robustness of the results. An interest in computers is essential; a knowledge of a programming language is useful.

**ECON 7364: Experimental Economics**

Introduction to experimental methodology as practiced for economic research. Experimental design choices in major papers are discussed, critically appraised, and assessed for their subsequent impact on experimental practice.

**ECON 7365: Labor Economics**

Topics include: labor supply, labor demand, human capital, equalizing differences, efficiency wages and other employer effects, wage structure and inequality, race and gender wage differentials.

**ECON 7366: Econometrics, Food and Health (prev. offered as Topics course)**

Quantitative analysis of the determinants of health. Traditional concepts of health economics will be presented along with empirical literature that utilizes natural and randomized experiments to identify health outcomes.

**ECON 7372: Economics of Education (prev. offered as Topics course)**

Topics include models of education, estimation of return to schooling, education production functions and issues in school finance.

**ECON 7375: Topics in Industrial Organization**

Provides an introduction to a wide range of topics in Industrial Organization. Topics covered include industry dynamics, geographic distribution of industrial activity, evolution of industry structure and size distribution of firms, and a variety of empirical techniques used to analyze micro data.

**ECON 7376: Industrial Organization**

This course examines how industries are organized and how that affects their economic performance. Topics include the modern business firm and its vertical relations, market structure and the marketing strategies it can encourage including innovation, with attention to network industries and their problems of compatibility and standardization.

**ECON 7377: Public Finance**

Selected topics in the incidence and effects of government revenues, expenditures, and debt.

**ECON 7378: State and Urban Finance (formerly ECON 6380)**

Analysis of government tax and expenditure at the state and local level, with consideration of underlying determinants of local public sector budgets.

**ECON 7379: Public Economics and Individual Behavior (prev. offered as Topics course)**

Impacts of government policies emphasizing the effects on individual behavior. Topics include education, Social Security, health insurance, unemployment insurance, disability insurance, and welfare.

**ECON 7380: Macroeconomic Modeling and Forecasting**

Quantitative macroeconomic relationships and econometric forecasting models.

**ECON 7384: Political Economy (prev. offered as Topics course)**

Modern political economy theory and empirics. Topics include voting, running for office, lobbying, and the implications of these behaviors for economic policies and institutions. Applications include democratization, campaign finance policy and corruption.

**ECON 7387: Economic Analysis of Urban Areas**

Markets for housing and sites, determinants of land use patterns. Topics include demand, rent and density gradients, racial discrimination, land use regulation, transportation access.

**ECON 7390: Readings in Advanced Economics**

Independent study supervised by faculty member.

**ECON 7392: Economic History**

This course examines the economic history of the United States, Europe, and Asia using the New Institutional Economics to explain economic growth and institutional change in these regions, particularly focusing on the different models of growth that have emerged in North America, Europe, and Asia.

**ECON 7393: Time Series Analysis**

Focuses on the theory and application of univariate time series methods. Topics covered include both stationary and nonstationary time series, with an emphasis on inference in nonstationary processes, e.g. unit root tests.

**ECON 7394: Time Series Analysis II (prev. offered as Topics course)**

Time series theory with applications. Topics include state space models, Kalman filter, models of Markov switching, state space models with Markov switching, trend/cycle decompositions, Markov Chain Monte Carlo (MCMC) methods, structural change, and median-unbiased estimation.

**ECON 7396: Topics in Economic Development**

The development of world economy, emphasizing preconditions of progress, changes in economic structure, the role of planning, and the problems of underdeveloped economies.

**ECON 7398: International Monetary Economics**

Exchange rates, balance of payments, macroeconomic policy, international financial markets, and the international monetary system.

**ECON 8300: Advanced Seminar in Current Economic Research**

Continuation of ECON 7300. May be repeated with consent of instructor.

**ECON 8331: Econometrics II**

Estimation methods in single-equation and simultaneous equations models. Topics include missing observations, errors in variables, and limited dependent variables.

**ECON 8333: Econometrics III (prev. offered as Topics course)**

Econometric theory with applications. Asymptotic distribution theory, identification of simultaneous equation systems, estimation of systems of equations, specification and diagnostic testing, and the estimation of fixed and random effects panel data models.

**ECON 8342: Microeconomic Theory III**

Concentration on recent microeconomic theory literature.

**ECON 8344: Macroeconomic Theory III**

Concentration on recent macroeconomic theory literature.

**8346: Dynamic Macroeconomics (prev. offered as Topics course)**

Applied research methods with applications in macroeconomics. Topics include generalized method of moments, vector autoregression, and introduction to dynamic programming. Recent literature in applied macroeconomics will be reviewed.

**ECON 8361, 8362, and 8362: Workshop in Research Methods III, IV, and V**

Formulation, execution, and presentation of a research paper in economics.

**ECON 8396: International Trade**

Causes and consequences of international trade, theories of comparative advantage, theory and measurement of tariffs, capital movements, and multinational corporations.