ECONOMICS - DOCTOR OF PHILOSOPHY (PHD)

Our PhD program focuses on a solid core curriculum in economic theory and econometrics. Beyond this, we offer a number of specialized fields of study: econometrics, economic development, economic history, industrial organization, international trade and finance, labor and human resources, natural resources and environmental economics and public economics.

Master's Degree in Economics

The Department of Economics does not currently offer a stand-alone MA degree program, although students enrolled in our PhD program will earn their MA degree as they progress toward their doctorate.

Requirements

Admission Requirements

An applicant for admission as a regular degree student must:

- Hold a baccalaureate degree from a college or university of recognized standing, or have done work equivalent to that required for such a degree and equivalent to the degree given at this university. The undergraduate GPA must be at least 2.75 (2.00=C).
- Have completed intermediate microeconomic and macroeconomic theory courses, 6 credit hours of calculus at the university level or equivalent, and statistics.
- Submit Graduate Record Examination (GRE) scores for aptitude (verbal and quantitative). International applicants whose native language is not English must also submit a TOEFL score with a speaking component, even if they have attended college in an English-speaking country.
- Arrange for the submission of three letters of recommendation.

Graduate study in economics is quantitative and analytical. Students should be comfortable with basic calculus (derivatives and integration), linear algebra, matrix algebra and basic statistics.

The university deadline for international applications is Dec. 1 for the following fall semester. The department encourages international applicants to comply with this deadline. Late applications may be considered; however, they may be at a disadvantage with respect to the award of financial aid. Domestic applicants who wish to be considered for financial assistance should apply by Jan. 15. Students must begin the program in a fall semester.

Degree Requirements

Students are expected to complete all requirements for the PhD degree within five years of entering the program (the maximum time allowed by the Graduate School is six years). The schedule of required courses is centered on this expectation. Failure to make timely and satisfactory progress toward the degree may result in loss of financial assistance or dismissal from the program.

Course Requirements

1. Prior to beginning the program, students must demonstrate an acceptable degree of competence in differential and integral calculus and optimization techniques. (This requirement is in addition to the six credit hours of calculus required to apply to the program.) Such competence is normally demonstrated by taking *ECON 7800* (an intensive, three-week preparatory course offered immediately prior to each fall semester) and passing its final examination with a grade of B- or better. Students who fail this examination must enter into extensive consultation with the director of graduate studies (DGS). Other methods by which the required competence may be demonstrated:
   - obtain written approval from the DGS to waive the requirement for *ECON 7800* due to sufficient mathematical preparation in prior studies, or
   - pass the final examination in *ECON 7800* at a level of B- without taking the course.
2. There are six core courses in the PhD program: ECON 7010, ECON 7020, ECON 7030, ECON 7040, ECON 7818 and ECON 7828. Course requirements beyond the core courses include:
   - Six elective courses at the 8000 level. Basic fields are econometrics, economic development, economic history, industrial organization, international trade and finance, labor and human resources, natural resources and environmental economics and public economics. Ordinarily, a student would take two elective courses in a basic field of specialization in preparation for a dissertation.
   - 6 credit hours in a research colloquium.
   - At least 30 credit hours of dissertation.
3. At least four of the core courses must be taken on the Boulder campus. Courses transferred for credit must be approved by the DGS. After entry into the PhD program, all remaining courses must be taken on the Boulder campus.
4. All courses for PhD credit taken on the Boulder campus must be passed with a grade of B- or better. A student who receives a grade of C+ or lower in a core course must retake that course the following academic year.
5. No more than 12 credit hours (exclusive of dissertation credit hours) from a single faculty member may be counted toward PhD requirements. Independent study is allowed only to satisfy elective requirements. No more than 6 credit hours of independent study may be applied to the PhD degree and no more than 3 credit hours of independent study may be taken from a single faculty member. In consultation with the DGS, students may choose to take up to two graduate offerings in other departments as elective courses.
6. See the Plan of Study tab for course recommendations.

Preliminary Examinations

Written preliminary examinations in microeconomic theory, macroeconomic theory and econometrics must be taken in the examination period following the successful completion of core courses in these areas. Under most circumstances this period would be in August prior to the second year. An examination attempted and failed must be taken again and passed in the next examination period. A second failure results in dismissal from the program, subject to appeal to the GCRC under extraordinary circumstances. In no case are attempts beyond the third granted.

Students who have failed any of the core courses are ineligible to take the preliminary examination in the area of failure. These students must retake the failed course(s) in the following year and attempt the relevant preliminary examination in the first scheduled examination period after they pass.

Students who fail to pass all three preliminary examinations within two-and-one-half years of beginning the PhD program must exit the program.

MA Degree

An MA degree will be awarded to students who have successfully completed all core courses in the PhD program, completed 30 hours of graduate credit with a 3.00 GPA and performed satisfactorily within two attempts on at least two out of three preliminary examinations.

Third-Year Research Colloquium

Third-year students are expected to register for 3 credit hours per semester in the research colloquium, which will meet weekly under the direction of a faculty member. The purpose of the colloquium is to provide students the opportunity and guidance to complete the required third-year paper and to facilitate progress toward the dissertation stage.

Comprehensive Examination

Students must take an oral comprehensive examination before admission to PhD candidacy. This examination may occur either at the time of the student's research presentation in ECON 8219 or at a later date, and will encompass the materials in the presentation and all relevant coursework completed by the candidate. Students who fail this comprehensive examination will be given a second chance during the following semester. For those students for whom the presentation in ECON 8219 does not serve as the oral comprehensive examination, a separate oral examination must be scheduled before admission to candidacy. Students who do not pass this exam by the end of their fifth year must exit the program.

Admission to Candidacy and Dissertation Requirements

Students are formally admitted to candidacy for the PhD degree after completing all course requirements and all preliminary and comprehensive examinations and after earning four semesters of residency (see the Doctoral Degree Requirements (https://catalog.colorado.edu/graduate/degree-requirements/doctoral-degree-requirements/) section of this catalog for details). After admission to candidacy, students must register each fall and spring semester for dissertation credit (ECON 8999) until attaining the degree; the accumulated credit for the thesis must total at least 30 credit hours to attain the degree. A student must prepare a written dissertation and successfully pass an oral examination before a dissertation committee and other interested persons on its content before receiving the degree. The minimum residence requirement for the PhD degree is six semesters of scholarly work beyond the bachelor's degree.

Administration: Examining Committees for Examinations

Examining committees for preliminary examinations consist of three members of the economics department who teach in the relevant area. Examining committees for comprehensive examinations consist of at least three members of the economics department.

Preliminary Examinations

1. Written examinations are numbered so that insofar as possible the identity of the student is unknown. Each faculty member grades independently and writes no comments in the examination booklet. A meeting of the graders is called by the chair of the examination committee and the committee grade is submitted to the graduate program manager. The possible grades include "High Pass," "Pass" and "Fail."
2. In cases where there is a question of pass or fail on any exam, if two of the members of the examination committee vote affirmatively, a grade of pass will be recorded; if two of the members of the grading committee vote negatively, a grade of fail will be recorded. If the vote of the grading committee is tied and the third member is absent (but will be available within seven days), the decision to pass or to fail is to be made by the reconvened grading committee. If fewer than two members of the grading committee are present and voting, or if the vote of the grading committee is tied and the third member is not available within seven days, the decision to pass or fail will be made by the Graduate Curriculum and Review Committee; in such circumstances the grade is reported as pass or fail, based on a majority vote.
3. When examination results are reported, a student who failed should have an opportunity to discuss their performance with a member of the examining committee.

Dissertation Guidelines

1. In the spring term of the academic year following the research colloquium, each student must submit a written dissertation proposal and conduct an oral defense of that proposal before his or her basic committee. A dissertation proposal form must be signed by each member of the basic committee and submitted to the graduate program manager. The basic committee consists of the student's faculty supervisor and three other faculty members from the department. An acceptable proposal must include a statement of purpose and a justification for the importance of the work; a full literature review and a statement of how this research will contribute to the literature; and a detailed description of the methodologies to be used and of the data bases, if appropriate.
2. Normally students are expected to complete their dissertation by the end of their fifth academic year. The graduate program manager provides details on submission of the dissertation and arrangements for the oral defense. The final defense is conducted before a basic committee of four faculty members from the department plus one outside member. After the defense, minor changes are agreed upon between candidate and supervisor before the final dissertation is submitted.

Plan of Study

First Year		
Fall Semester		**Credit Hours**
ECON 7010	Microeconomic Theory 1	3
ECON 7020	Macroeconomic Theory 1	3
ECON 7818	Introduction to Probability and Asymptotic Theory	3
	Credit Hours	**9**
Spring Semester		
ECON 7030	Microeconomic Theory 2	3
ECON 7040	Macroeconomic Theory 2	3
ECON 7828	Econometrics	3
	Credit Hours	**9**
Second Year		
Fall Semester		
Elective course		3
Elective course		3
	Credit Hours	**6**
Spring Semester		
Elective course		3
Elective course		3
Elective course		3
	Credit Hours	**9**

Third Year		
Fall Semester		
ECON 8209	Economics Research Methods Workshop 1	3
Remaining elective course(s)		3
Dissertation research, if practicable		
	Credit Hours	**6**
Spring Semester		
ECON 8219	Economics Research Methods Workshop 2	3
Dissertation research		6
Remaining elective course(s), if applicable		
	Credit Hours	**9**
Fourth Year		
Fall Semester		
Relevant dissertation credit hours		6
	Credit Hours	**6**
Spring Semester		
Relevant dissertation credit hours		6
	Credit Hours	**6**
Fifth Year		
Fall Semester		
Relevant dissertation credit hours		6
	Credit Hours	**6**
Spring Semester		
Relevant dissertation credit hours		6
	Credit Hours	**6**
	Total Credit Hours	**72**