Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (http://gradschool.psu.edu/prospective-students/how-to-apply). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admission Requirements (http://gradschool.psu.edu/graduate-education-policies).

Graduate study in Economics relies heavily on abstract mathematics. It is recommended that, at a minimum, applicants should have taken mathematics up through multivariate calculus.

We require that applicants take the 3-part general aptitude GRE. In judging applicants, we try to take into account that different applicants expend different amounts of effort in preparing for the GRE and that there are systematic differences among applicants from different countries. We require that the GRE be taken within 5 years prior to applying to our Ph.D. program.

The language of instruction at Penn State is English. English proficiency test scores (TOEFL/IELTS) may be required for international applicants. See GCAC-305 Admission Requirements for International Students (http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-305-admission-requirements-international-students) for more information.

We place considerable weight on, and require three (3) letters of recommendation. Letters should be from people who know you well and who are familiar with graduate programs in Economics at leading universities. The most valuable letters are from people who can credibly compare you to others who have succeeded in such programs.

Highly successful Ph.D. students in Economics display a wide variety of research skills, including creativity. The questions we ask on the application are intended to elicit information about those skills. Also, if you have completed a paper that displays such skills, upload it via the GRADS online application system.

Degree Requirements

Master of Arts (M.A.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Requirements. (http://gradschool.psu.edu/graduate-education-policies)

Doctor of Philosophy (Ph.D.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Requirements. (http://gradschool.psu.edu/graduate-education-policies)

The Ph.D. program has 3 main parts taken in sequence: the core, subfields (of specialization), and the dissertation. Most students take 5 years to complete the program. Occasionally, but rarely, a student finishes in 4 years.

The Core

The core consists of 2 semesters of course work: a 2-semester sequence in microeconomic theory, a 2-semester sequence in econometrics, and a course in mathematics for economists followed by an intensive single-semester in macroeconomic theory. At the beginning of the third semester, students are required to take two 3-hour qualifying exams: one in microeconomics and one in macroeconomics. Students who fail an exam on their first attempt are allowed to take the exam a second time. Competence in econometrics must be demonstrated through satisfactory completion of the course work. Students with prior graduate training may, however, obtain permission to skip some of the course work in the core and take the qualifying exams earlier than the 3rd semester.

Subfields

Students must demonstrate competence in 3 subfields. Competence in a subfield is usually demonstrated by completing 6 credits in the subfield with no grade lower than a B. The department offers the following subfields:

- development economics
- econometrics
- game theory
- industrial organization
- international economics
- macroeconomics

With the permission of the student’s adviser and the Director of Graduate Studies, a student may take a subfield in another department. For instance, students have taken subfield courses in Demography, Political Science, and Statistics.

First Year

<table>
<thead>
<tr>
<th>Credits Spring</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ECON 502</td>
<td>3</td>
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<td>ECON 501</td>
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<td>ECON 521</td>
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<tr>
<td>ECON 510</td>
<td>3</td>
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Admissions Requirements

Students must apply and be admitted to the graduate program in Economics and The Graduate School before they can apply for admission to the dual-title degree program. After admission to their primary program, students must apply for admission to and meet the admissions requirements of the Demography dual-title program. Refer to the Admission Requirements section of the Demography Bulletin page (http://bulletins.psu.edu/graduate/programs/majors/demography).

Doctoral students must be admitted into the dual-title degree program in Demography prior to taking the qualifying examination in their primary graduate program.

Degree Requirements

To qualify for the dual-title degree, students must satisfy the degree requirements for the degree they are enrolled in Economics, listed in the Degree Requirements section. In addition, students must complete the degree requirements for the dual-title in Demography, listed on the Demography Bulletin page (http://bulletins.psu.edu/graduate/programs/majors/demography).

The qualifying examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Economics and must include at least one Graduate Faculty member from the Demography program. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. There will be a single qualifying examination, containing elements of both Economics and Demography. Dual-title graduate degree students may require an additional semester to fulfill requirements for both areas of study and, therefore, the qualifying examination may be delayed one semester beyond the normal period allowable.

In addition to the general Graduate Council requirements for Ph.D. committees (http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/phd-dissertation-committee-formation), the Ph.D. committee of an Economics and Demography dual-title Ph.D. student must include at least one member of the Demography Graduate Faculty. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. If the chair of the Ph.D. committee is not also a member of the Graduate Faculty in Demography, the member of the committee representing Demography must be appointed as co-chair. The Demography representative on the student's Ph.D. committee will develop questions for and participate in the evaluation of the comprehensive examination.

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their Ph.D. committee and reflects their original research and education in Economics and Demography. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the Ph.D. committee, the head of the graduate program, and the Graduate School.

Dual-title M.A. and Ph.D. in Economics and Operations Research

Requirements listed here are in addition to requirements listed in GCAC-208 Dual-Title Graduate Degree Programs (http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-208-dual-title-graduate-degree-programs).

Admissions Requirements

Students must apply and be admitted to the graduate program in Economics and The Graduate School before they can apply for admission
to the dual-title degree program. After admission to their primary program, students must apply for admission to and meet the admissions requirements of the Operations Research dual-title program. Refer to the Admission Requirements section of the Operations Research Bulletin page (http://bulletins.psu.edu/graduate/programs/majors/operations-research). Doctoral students must be admitted into the dual-title degree program in Operations Research prior to taking the qualifying examination in their primary graduate program.

**Degree Requirements**

To qualify for the dual-title degree, students must satisfy the degree requirements for the degree they are enrolled in Economics, listed in the Degree Requirements section. In addition, students must complete the degree requirements for the dual-title in Operations Research, listed on the Operations Research Bulletin page (http://bulletins.psu.edu/graduate/programs/majors/operations-research).

The qualifying examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Economics and must include at least one Graduate Faculty member from the Operations Research program. Faculty members who hold appointments in both programs’ Graduate Faculty may serve in a combined role. There will be a single qualifying examination, containing elements of both Economics and Operations Research. Dual-title graduate degree students may require an additional semester to fulfill requirements for both areas of study and, therefore, the qualifying examination may be delayed one semester beyond the normal period allowable.

In addition to the general Graduate Council requirements for Ph.D. committees (http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/phd-dissertation-committee-formation), the Ph.D. committee of a Economics and Operations Research dual-title Ph.D. student must include at least one member of the Operations Research Graduate Faculty. Faculty members who hold appointments in both programs’ Graduate Faculty may serve in a combined role. If the chair of the Ph.D. committee is not also a member of the Graduate Faculty in Operations Research, the member of the committee representing Operations Research must be appointed as co-chair. The Operations Research representative on the student’s Ph.D. committee will develop questions for and participate in the evaluation of the comprehensive examination.

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their Ph.D. committee and reflects their original research and education in Economics and Operations Research. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the Ph.D. committee, the head of the graduate program, and the Graduate School.

**Student Aid**

Graduate assistantships available to students in this program and other forms of student aid are described in the Tuition & Funding (http://gradschool.psu.edu/graduate-funding) section of The Graduate School's website. Students on graduate assistantships must adhere to the course load limits (http://gradschool.psu.edu/graduate-education-policies/gsad/gsad-900/gsad-901-graduate-assistants) set by The Graduate School.

**Courses**

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

Economics (ECON) Course List (https://bulletins.psu.edu/university-course-descriptions/graduate/econ)

**Learning Outcomes**

1. **CORE**: Graduates will demonstrate broad knowledge and comprehension of the major macroeconomic and microeconomic models and econometric methodology.
2. **FIELD**: Graduates will acquire in-depth knowledge and comprehension of the major models, study designs and results of their specialty area.
3. **RESEARCH**: Graduates will be proficient in advancing knowledge in their specialty area through new approaches, models, methods, or the creative application of existing approaches, models and methods to produce new results.
4. **TRANSFER**: Graduates will learn to convey the major issues in their specialty area and their specific projects through research collaborations, discussions, presentations and publications.

**Contact**

**Graduate Program Head**: Barry W. Ickes
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**Program Website**: Economics (http://www.econ.psu.edu)

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**M.A. Program Contact**

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**Telephone**: (814)863-1956