

## DEPARTMENT OF ECONOMICS

### Graduate Study

#### **Admission Requirements for Graduate Study**

The Department of Economics specifies the following prerequisites for graduate study in economics: one full year of college mathematics and an appreciable number of professional subjects in economics for those qualified students who have majored in fields other than economics. Applicants for admission who have deficiencies in entrance requirements should consult with the department about programs to remedy such deficits.

#### **Master of Science in Economics**

In unusual circumstances, admission may be granted to current MIT students seeking the Master of Science degree. The general requirements for the SM (<http://catalog.mit.edu/mit/graduate-education/general-degree-requirements/#mastersdegreertext>) are given in the section on Graduate Education.

#### **Master of Applied Science in Data, Economics, and Design of Policy**

The Master of Applied Science in Data, Economics, and Design of Policy (<http://catalog.mit.edu/degree-charts/master-applied-data-economics-development-policy>) is an intensive program consisting of a series of nine subjects plus a capstone experience (a summer internship and a corresponding project report). Students will gain a strong foundation in microeconomics, development economics, probability, and statistics; engage with cutting-edge research; and develop practical skills in data analysis and the evaluation of social programs. Only students who have successfully completed the MITx MicroMasters (<https://micromasters.mit.edu/dedp>) credential in Data, Economics and Design of Policy are eligible to apply to the on-campus Master's program.

Email for more information ([dedp\\_masters@povertyactionlab.org](mailto:dedp_masters@povertyactionlab.org)) or visit the website (<https://economics.mit.edu/masters>).

#### **Master of Engineering in Computer Science, Economics, and Data Science**

The Department of Electrical Engineering and Computer Science and the Department of Economics offer a joint curriculum leading to a Master of Engineering in Computer Science, Economics, and Data Science. Computer science and data science provide tools for problem solving, and economics applies those tools to domains where there is rapidly growing intellectual, scholarly, and commercial interest, such as online markets, crowdsourcing platforms, spectrum auctions, financial platforms, crypto currencies, and large-scale matching/allocation systems such as kidney donation and public school choice systems. This joint program prepares students for jobs in economics, management consulting, and finance. Students in the program are full members of both

departments, with a single advisor chosen from EECS or Economics based on interests of the student as well as the advisor's interest and expertise in the 6-14 area.

The Master's of Engineering in Computer Science, Economics, and Data Science (Course 6-14P) builds on the foundation provided by the Bachelor of Science in Computer Science, Economics, and Data Science (Course 6-14) to provide both advanced classwork and master's-level thesis work. The student selects (with departmental review and approval) 42 units of advanced graduate subjects, which include two subjects in economics and two subjects in electrical engineering and computer science. A further 24 units of electives are chosen from a restricted departmental list of math electives.

The Master of Engineering degree also requires 24 units of thesis credit. While a student may register for more than this number of thesis units, only 24 units count toward the degree requirement.

Programs leading to the five-year Master of Engineering degree or to the four-year Bachelor of Science degree can be arranged to be identical through the junior year. At the end of the junior year, students with a strong academic record will be offered the opportunity to continue through the five-year master's program. A student in the Master of Engineering program must be registered as a graduate student for at least one regular (non-summer) term. To remain in the program and to receive the Master of Engineering degree, students will be expected to maintain a strong academic record. Admission to the Master of Engineering program is open only to undergraduate students who have completed their junior year in the Course 6-14 Bachelor of Science program.

#### **Financial Support**

The fifth year of study toward the Master of Engineering degree can be supported by a combination of personal funds, a fellowship, or a graduate assistantship. Assistantships require participation in research or teaching in the department or in one of the associated laboratories. Full-time assistants may register for no more than two scheduled classroom or laboratory subjects during the term, but may receive academic credit for their participation in the teaching or research program. Support through an assistantship may extend the period required to complete the Master of Engineering program by an additional term or two. Support is granted competitively to graduate students and will not be available for all of those admitted to the Master of Engineering program. If provided, department support for Master of Engineering candidates is normally limited to the first three terms as a graduate student unless the Master of Engineering thesis has been completed, the student has served as a teaching assistant, or the student has been admitted to the doctoral program, in which cases a fourth term of support may be permitted.

#### **Inquiries**

For additional information regarding teaching and research programs, contact the EECS Undergraduate Office, Room 38-476, 617-253-4654, or visit the department's website (<https://>

[www.eecs.mit.edu/academics/undergraduate-programs/meng-program](http://www.eecs.mit.edu/academics/undergraduate-programs/meng-program)).

### **Doctor of Philosophy**

The Department of Economics offers a Doctor of Philosophy (PhD) in Economics (<http://catalog.mit.edu/degree-charts/phd-economics>). Students in the doctoral program complete a course of study involving a series of required core subjects in microeconomic theory, macroeconomics, and econometrics; coursework (with a grade of B or better) in two major and two minor fields of study from among those offered by the department; a research paper; and a thesis. The coursework and research paper, completed in the program's first two years, culminate in a general examination. The four fields of study are chosen from advanced economic theory; computation and statistics (minor field only); econometrics; economic development; finance; industrial organization; international economics; labor economics; monetary economics; organizational economics; political economy; and public economics.

Following successful completion of the general examination requirement, the student forms a thesis committee of two or three faculty members. The thesis must meet high professional standards and make a significant original contribution to the student's chosen research area. The thesis must be approved by the thesis committee and then by an independent faculty member in the department selected by the chair of the Graduate Committee. Upon successful completion of the program, students are awarded the PhD in economics.

There is no required minimum number of graduate subjects in the department. Students must be in residence for a minimum of two years. However, candidates ordinarily need two full academic years of study to complete the core and field of study requirements, and the doctoral thesis typically requires three to four years of additional research effort.

### **Interdisciplinary Program**

#### **Economics and Statistics**

The Interdisciplinary Doctoral Program in Statistics provides training in statistics, including classical statistics and probability as well as computation and data analysis, to students who wish to integrate these valuable skills into their primary academic program. The program is administered jointly by the departments of Aeronautics and Astronautics, Economics, Mathematics, Mechanical Engineering, Physics, and Political Science, and the Statistics and Data Science Center within the Institute for Data, Systems, and Society. It is open to current doctoral students in participating departments. For more information, including department-specific requirements, see the full program description (<http://catalog.mit.edu/interdisciplinary/graduate-programs/phd-statistics>) under Interdisciplinary Graduate Programs.

### **Financial Support**

Many doctoral students are supported by scholarship and fellowship grants, as well as by teaching and research assistantships.

### **Inquiries**

For more information regarding admissions or financial aid ([evako@mit.edu](mailto:evako@mit.edu)), contact Julia Martyn-Shah, 617-253-8787. For undergraduate admissions and academic programs ([gking@mit.edu](mailto:gking@mit.edu)), contact Gary King, 617-253-0951. For any other information ([memiller@mit.edu](mailto:memiller@mit.edu)), contact Megan Miller, 617-253-3807.