

Mathematics-Economics

The Mathematics Economics concentration is designed to give a background in economic theory plus the mathematical tools needed to analyze and develop additional theoretical constructions. The emphasis is on the abstract theory itself. Students may choose either the standard or the professional track, both award a Bachelor of Arts degree.

Standard Mathematics-Economics Concentration

Economics

ECON 1130	Intermediate Microeconomics (Mathematical) ¹	1
ECON 1210	Intermediate Macroeconomics	1
ECON 1630	Econometrics I	1
Two courses from the "mathematical-economics" group: ²		2
ECON 1170	Welfare Economics and Social Choice Theory	
ECON 1225	Advanced Macroeconomics: Monetary, Fiscal, and Stabilization Policies	
ECON 1465	Market Design: Theory and Applications	
ECON 1470	Bargaining Theory and Applications	
ECON 1640	Econometrics II	
ECON 1650	Financial Econometrics	
ECON 1660	Big Data	
ECON 1750	Investments II	
ECON 1759	Data, Statistics, Finance	
ECON 1810	Economics and Psychology	
ECON 1820	Behavioral Economics	
ECON 1850	Theory of Economic Growth	
ECON 1860	The Theory of General Equilibrium	
ECON 1870	Game Theory and Applications to Economics	
One course from the "data methods" group: ²		1
ECON 1301	Economics of Education I	
ECON 1305	Economics of Education: Research	
ECON 1310	Labor Economics	
ECON 1360	Health Economics	
ECON 1410	Urban Economics	
ECON 1480	Public Economics	
ECON 1510	Economic Development	
ECON 1520	The Economic Analysis of Institutions	
ECON 1530	Health, Hunger and the Household in Developing Countries	
ECON 1629	Applied Research Methods for Economists	
ECON 1640	Econometrics II	
ECON 1650	Financial Econometrics	
ECON 1759	Data, Statistics, Finance	
ECON 1765	Finance, Regulation, and the Economy: Research	
Two additional 1000-level economics courses		2

Mathematics

Calculus: MATH 0180 or higher		1
Linear Algebra - one of the following:		1
MATH 0520	Linear Algebra	
MATH 0540	Honors Linear Algebra	
Probability Theory - one of the following:		1
MATH 1610	Probability	
MATH 1620	Mathematical Statistics	

APMA 1650	Statistical Inference I	
Analysis - one of the following:		1
MATH 1010	Analysis: Functions of One Variable	
MATH 1130	Functions of Several Variables	
MATH 1140	Functions Of Several Variables	
Differential Equations - one of the following:		1
MATH 1110	Ordinary Differential Equations	
MATH 1120	Partial Differential Equations	
One additional course from the Probability, Analysis, and Differential Equations courses listed above		1
Total Credits		14

¹ Or ECON 1110 with permission.

² No course may be "double-counted" to satisfy both the mathematical-economics and data methods requirement.

Honors and Capstone Requirement:

Admission to candidacy for honors in the concentration is granted on the following basis: 3.7 GPA for Economics courses, and 3.5 GPA overall. To graduate with honors, a student must write an honors thesis in senior year following the procedures specified by the concentration (see Economics Department website). Beginning with the class of 2016, students not writing an honors thesis must complete an alternative senior capstone project and obtain approval of a faculty sponsor.

Professional Track

The requirements for the professional track include all those of the standard track, as well as the following:

Students must complete two two-to-four month full-time professional experiences, doing work that is relevant to their concentration programs. Such work is normally done within an industrial organization, but may also be at a university under the supervision of a faculty member.

On completion of each professional experience, the student must write and upload to ASK a reflective essay about the experience addressing the following prompts, to be approved by the student's concentration advisor:

- Which courses were put to use in your summer's work? Which topics, in particular, were important?
- In retrospect, which courses should you have taken before embarking on your summer experience? What are the topics from these courses that would have helped you over the summer if you had been more familiar with them?
- Are there topics you should have been familiar with in preparation for your summer experience, but are not taught at Brown? What are these topics?
- What did you learn from the experience that probably could not have been picked up from course work?
- Is the sort of work you did over the summer something you would like to continue doing once you graduate? Explain.
- Would you recommend your summer experience to other Brown students? Explain.

Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Helvetica was used instead of Arial.

The editor may contact Leepfrog for a draft with the correct fonts in place.