

FINANCIAL ECONOMICS

The Financial Economics major guides students interested in a career in finance to the most useful courses in the two departments currently teaching financial topics, and makes it easier for students who have strong financial economics interests to obtain a minor or area of concentration outside mathematics or economics. Students wishing to major in Financial Economics are required to take the core economics theory courses in macroeconomics and microeconomics to provide a strong theoretical foundation. Beyond those courses, the student specializes in finance. The two departments' offerings in Mathematics and Economics complement each other well. Economics courses reinforce the concepts of optimization and comparative statics and give students command of computational tools that are ubiquitous in the world of finance. The mathematics courses examine mathematical models and lines of reasoning used in finance.

Student Learning Goals

Understand standard micro and macro theory as they apply to finance and monetary issues.

Interest theory competency.

Facility with probabilistic reasoning in statistical and financial settings.

Understand and apply standard models of financial economics.

Be able to use Excel and Stata as analytical tools for empirical analysis.

Be able to find, assess, and analyze data to support an economic argument.

Write a convincing and well argued empirical paper that places quantitative analysis in a broader context.

Be able to communicate financial ideas orally in a clear, persuasive, and eloquent manner.

Apply theory in a Broad variety of real world Financial situations.

Requirements for the Major

Code	Title	Credits
Core		
ECO-101	Principles of Economics	1
ECO-251	Economic Approach With Excel	0.5
ECO-253	Introduction to Econometrics	1
ECO-291	Intermediate Microeconomic Theory	1
ECO-292	Intermediate Macroeconomics	1
ECO-361	Corporate Finance	1
ECO-362	Money and Banking	1
MAT-227	Probability & Stats I	1
	or MAT-253 Probability Models and Statistical Models & MAT-254	
MAT-277	Special Topics (Topics in Financial Math) ¹	1
	or MAT-251 Mathematical Finance and Mathematical Interest Theory & MAT-252	

MAT-353	Probability Models II	0.5
Total Credits		9

Code	Title	Credits
Collateral Requirements		
MAT-111	Calculus I	1
MAT-112	Calculus II	1
Total Credits		2

¹ MAT-277 can only fulfill this requirement when the topic is *Topics in Financial Math*.

We recommend that Financial Economics students take ECO-377 Special Topics (Investments) if it is available. Students taking a Financial Economics major may have a minor or second major in Mathematics, but may not count MAT-251 Mathematical Finance, MAT-252 Mathematical Interest Theory, MAT-253 Probability Models, MAT-254 Statistical Models, or MAT-353 Probability Models II toward that major or minor. Students taking a Financial Economics major may NOT have a major or minor in Economics.

Comprehensive Exam

The written and oral comprehensive exams, designed jointly by the Economics and Mathematics departments and specifically targeted to the financial economics student, serve as a capstone as well as an assessment experience.

Suggested Route through the Financial Economics Major

Course	Title	Credits
Freshman		
Fall Semester		
MAT-111	Calculus I ¹	1
Credits		1
Spring Semester		
MAT-112	Calculus II ¹	1
ECO-101	Principles of Economics ²	1
Credits		2
Sophomore		
Fall Semester		
ECO-291	Intermediate Microeconomic Theory	1
ECO-251	Economic Approach With Excel	0.5
MAT-227	Probability & Stats I	0.5 or 1
	or MAT-253 or Probability Models	
MAT-353	Probability Models II	0.5
Credits		2.5-3
Spring Semester		
MAT-254	Statistical Models (unless MAT-227 has been completed)	0.5
ECO-253	Introduction to Econometrics	1
Credits		1.5
Junior		
Fall Semester		
MAT-277	Special Topics (Topics in Financial Math) ³	1
ECO-361	Corporate Finance ⁴	1

ECO-292	Intermediate Macroeconomics	1
Credits		3
Senior		
Fall Semester		
ECO-362	Money and Banking	1
Credits		1
Total Credits		11-11.5

¹ Co-curricular requirement for the major

² May be taken in the fall of the freshman year

³ MAT-251 (0.5 credit) and MAT-252 (0.5 credit) may be completed in place of MAT-277 *Topics in Financial Math*

⁴ May be taken in the fall of the senior year

Several of the MAT courses can be delayed one year. Students beginning with MAT-100 Math Modeling and Precalculus may take MAT-100 in the Fall of their Freshman year and MAT-111 in the Spring of their Freshman year.

Course	Title	Credits
Freshman		
Fall Semester		
MAT-100	Math Modeling and Precalculus	1
Credits		1
Spring Semester		
ECO-101	Principles of Economics ²	1
MAT-111	Calculus I	1
Credits		2
Sophomore		
Fall Semester		
MAT-112	Calculus II ¹	1
ECO-251	Economic Approach With Excel	0.5
ECO-291	Intermediate Microeconomic Theory	1
Credits		2.5
Spring Semester		
MAT-254	Statistical Models	0.5 or 1
	or MAT-227 or Probability & Stats I	
ECO-253	Introduction to Econometrics	1
Credits		1.5-2
Junior		
Fall Semester		
MAT-253	Probability Models (unless MAT-227 has been completed)	0.5
ECO-361	Corporate Finance ³	1
MAT-353	Probability Models II	0.5
Credits		2
Spring Semester		
ECO-292	Intermediate Macroeconomics	1
Credits		1
Senior		
Fall Semester		
MAT-277	Special Topics (Topics in Financial Math) ⁴	1

ECO-362	Money and Banking	1
Credits		2
Total Credits		12-12.5

¹ Co-curricular requirement for the major

² May be taken in the fall of the freshman year

³ May be taken in the fall of the senior year

⁴ MAT-251 (0.5 credit) and MAT-252 (0.5 credit) may be completed in place of MAT-277 *Topics in Financial Math*

Senior comprehensive examinations for the Financial Economics major will be jointly written and administered by the Economics and Mathematics departments and overseen by the two department chairs. For further questions contact the Economics department chair.

Peter Mikek, chair, Economics
Colin McKinney, chair, Mathematics