

# Mathematical Economics

---

The Departments of Economics and Mathematics offer the Bachelor of Arts in Mathematical Economics program as a platform for systematic concentration in the mathematical approach to economics. Economics has progressed in the last several decades by making extensive use of mathematical techniques. As a result, students who wish to pursue graduate study in economics, finance, accounting and other disciplines that make an extensive use of economics need a thorough grounding in both economics and mathematics. The Mathematical Economics curriculum provides this grounding with a broad selection of courses that cover all important areas of economics and the mathematical tools required for a critical, deep mastery of these areas. This program is especially recommended for those students who intend to pursue graduate studies in Economics.

## Contact Information:

William Stull, Chair, Economics  
Ritter Annex, Room 803  
215-204-5022  
stull@temple.edu

Dr. Irina Mitrea, Chair, Mathematics  
Wachman Hall, Room 640  
215-204-6741  
imitrea@temple.edu

Dr. Dimitrios Diamantaras, Advisor, Economics  
Ritter Annex, Room 883  
215-204-8169  
dimitrios.diamantaras@temple.edu

Dr. Boris Datskovsky, Director of Advising and Coordinated Courses, Mathematics  
Wachman Hall, Room 632  
215-204-7847  
bdats@temple.edu

Dr. Maria E. Lorenz, Director of Undergraduate Studies, Mathematics  
Wachman Hall, Room 610  
215-204-7852  
mathadvising@temple.edu

## Summary of Requirements for the Degree

### 1. University Requirements (123 total s.h.)

- MATH 0701 and/or ENG 0701, if required by placement testing.
- All Temple students must take a minimum of two writing-intensive courses as part of their major. All students must take ECON 3598 as their capstone experience. The following is a list of courses that can be used to satisfy the remaining writing-intensive requirement:

Code	Title	Credit Hours
ECON 3596	Energy, Ecology, and Economy	3
ECON 3597	Health Economics	3
ECON 3696	Behavioral Economics	3
ECON 3697	The Economics of Sports	3
ECON 3698	Economic Inequality	3
MATH 3096 or MATH 3098	Introduction to Modern Algebra Modern Algebra	3
MATH 4096	Senior Problem Solving	3

- Students must complete the General Education (GenEd) requirements. Students who complete this major typically receive a waiver for 1 Quantitative Literacy (GQ) GenEd course.

### 2. College Requirements

- 90 credits within the College of Science & Technology (CST) or the College of Liberal Arts (CLA).
- 45 Upper-Level (2000+) credits within the College of Science & Technology (CST) or the College of Liberal Arts (CLA).
- Two (2) Upper-Level (2000+) Liberal Art courses.
- Second (2nd) Level of a Foreign Language (1002).

## 3. Major Requirements for Bachelor of Arts (61-62 s.h.)

<b>Code</b>	<b>Title</b>	<b>Credit Hours</b>
<b>Computer &amp; Information Science</b>		
Select one of the following:		4
CIS 1053	Programming in Matlab	
CIS 1057	Computer Programming in C	
CIS 1068 or CIS 1968	Program Design and Abstraction Honors Program Design and Abstraction	
<b>Mathematics</b>		
MATH 1041 or MATH 1941	Calculus I Honors Calculus I	4
MATH 1042 or MATH 1942	Calculus II Honors Calculus II	4
MATH 2043 or MATH 2943	Calculus III Honors Calculus III	4
MATH 2101	Linear Algebra	3
MATH 2111	Basic Concepts of Math	3
MATH 3031	Probability Theory I	3
MATH 3032	Mathematical Statistics (S)	3
Select one of the following sequences:		6-7
MATH 3043 & MATH 3044	Numerical Analysis I and Numerical Analysis II	
MATH 3137 & MATH 3138	Real & Complex Analysis I and Real & Complex Analysis II	
MATH 3141 & MATH 3142	Advanced Calculus I and Advanced Calculus II	
One Mathematics elective at the 3000 level or above		3
<b>Economics</b>		
ECON 1102 or ECON 1902	Microeconomic Principles Honors Microeconomic Principles	3
ECON 3501 or ECON 3701	Intermediate Microeconomic Analysis Intermediate Microeconomic Analysis with Calculus	3
ECON 3502 or ECON 3702	Intermediate Macroeconomic Analysis Intermediate Macroeconomic Analysis with Calculus	3
ECON 3503 or ECON 3703	Introduction to Econometrics Econometric Theory	3
ECON 3504	Mathematical Economics	3
ECON 3598	Economics Writing Seminar	3
Two Economics electives at the 3000 level or above, with permission from advisor		6
Total Credit Hours		61-62
<b>Code</b>	<b>Title</b>	<b>Credit Hours</b>
(F) - Fall only course.		
(S) - Spring only course.		

## Residency Requirements

Students must satisfy general Temple University residency requirements.

At least 10 courses required for the major must be completed at Temple. At least 5 Mathematics courses and 4 Economics courses must be completed at Temple.

## Distinction in Major

For distinction in Mathematical Economics a student must have an overall GPA of 3.25 or higher. A student must also have a GPA of 3.50 or higher in the 3000+ Mathematics courses, and a GPA of 3.60 or higher in the 3000+ Economics courses.

## Suggested Academic Plan

### Bachelor of Arts in Mathematical Economics

#### Requirements for New Students starting in the 2020-2021 Academic Year

Year 1		Credit Hours
<b>Fall</b>		
Select one of the following:		4
CIS 1053	Programming in Matlab	
CIS 1057	Computer Programming in C	
CIS 1068	Program Design and Abstraction	
CIS 1968	Honors Program Design and Abstraction (F)	
MATH 1041 or 1941	Calculus I	4
General Education/Elective Credits <sup>1</sup>		7
Term Credit Hours		15
<b>Spring</b>		
ECON 1102 or 1902	Microeconomic Principles	3
MATH 1042 or 1942	Calculus II	4
General Education/Elective Credits		9
Term Credit Hours		16
<b>Year 2</b>		
<b>Fall</b>		
ECON 3501 or 3701	Intermediate Microeconomic Analysis	3
MATH 2043 or 2943	Calculus III	4
General Education/Elective Credits		9
Term Credit Hours		16
<b>Spring</b>		
ECON 3502 or 3702	Intermediate Macroeconomic Analysis	3
MATH 2111	Basic Concepts of Math	3
General Education/Elective Credits		9
Term Credit Hours		15
<b>Year 3</b>		
<b>Fall</b>		
3000+ Economics Elective, with permission from advisor <sup>2</sup>		3
MATH 2101	Linear Algebra	3
MATH 3031	Probability Theory I	3
General Education/Elective Credits		6
Term Credit Hours		15
<b>Spring</b>		
ECON 3504	Mathematical Economics	3
MATH 3032	Mathematical Statistics (S)	3
3000+ Mathematics Elective <sup>2</sup>		3
General Education/Elective Credits		6
Term Credit Hours		15
<b>Year 4</b>		
<b>Fall</b>		
ECON 3503 or 3703	Introduction to Econometrics	3
Select one of the following: <sup>3</sup>		3-4
MATH 3043	Numerical Analysis I (F)	

MATH 3137	Real & Complex Analysis I	
MATH 3141	Advanced Calculus I	
General Education/Elective Credits		10-9
Term Credit Hours		16
<b>Spring</b>		
ECON 3598	Economics Writing Seminar [WI]	3
3000+ Economics Elective, with permission from advisor <sup>2</sup>		3
Select one of the following: <sup>3</sup>		3
MATH 3044	Numerical Analysis II	
MATH 3138	Real & Complex Analysis II	
MATH 3142	Advanced Calculus II	
General Education/Elective Credits		6
Term Credit Hours		15
Total Credit Hours:		123

Code	Title	Credit Hours
------	-------	--------------

(F) - Fall only course

(S) - Spring only course

- 1 All students in the College of Liberal Arts are required to take a 1 credit seminar in professional development. CLA 1002 Professional Development for Liberal Arts Majors is the appropriate course option for this major. Other courses that fulfill this requirement are ENG 1801 Career Seminar and PSY 1002 Careers in Psychology.
- 2 One of the Mathematics or Economics electives must be a writing-intensive course in order to satisfy the University requirement that each student must fulfill two writing-intensive courses within the major.
- 3 You must complete the year-long sequence of either MATH 3043 and MATH 3044; or MATH 3137 and MATH 3138; or MATH 3141 and MATH 3142.