Mathematical Economics BA (CST)

Overview

The College of Liberal Arts' Department of Economics and the College of Science and Technology's Department of Mathematics jointly offer the **Bachelor of Arts in Mathematical Economics** 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.

Campus Location: Main

Program Code: ST-MECN-BA

Undergraduate Contact Information

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Learn more about the Bachelor of Arts in Mathematical Economics.

These requirements are for students who matriculated in academic year 2023-2024. Students who matriculated prior to fall 2023 should refer to the Archives *to view the requirements for their Bulletin year.*

Bachelor of Arts Requirements

Summary of Requirements for the Degree

1. University Requirements (123 total s.h.)
   - Students must complete all University requirements including those listed below.
   - All undergraduate students must complete at least two writing-intensive courses for a total of at least six credits at Temple as part of their major. The specific writing-intensive course options for this major are:

Code	Title	Credit Hours
ECON 3596	Energy, Ecology, and Economy	3
ECON 3597	Health Economics	3
ECON 3598	Economics Writing Seminar	3
ECON 3696	Behavioral Economics	3
ECON 3697	The Economics of Sports	3
ECON 3698	Economic Inequality	3

MATH 3096	Introduction to Modern Algebra	3
or MATH 3098	Modern Algebra	
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
   - A minimum of 90 total credits within the College of Science & Technology (CST), the College of Liberal Arts (CLA), and/or the College of Engineering (ENG).
     - A minimum of 45 of these credits must be upper-level (courses numbered 2000 and above).
     - A minimum of 6 of these credits must be upper-level (courses numbered 2000 and above) CLA credits.
   - Successful completion or waiver from the second level of a foreign language.
   - Complete a one-credit first-year or transfer seminar.
     - SCTC 1001 CST First Year Seminar for every entering first-year CST student.
     - SCTC 2001 CST Transfer Seminar for every entering transfer CST student.

3. Major Requirements for Bachelor of Arts (60-62 s.h.)

Code	Title	Credit Hours
Computer & Information Science		
Select one of the following:		3-4
CIS 1051	Introduction to Problem Solving and Programming in Python	
or CIS 1951	Honors Introduction to Problem Solving and Programming in Python	
CIS 1057	Computer Programming in C	
CIS 1068	Program Design and Abstraction	
or CIS 1968	Honors Program Design and Abstraction	
MATH 1033 & MATH 1034	Computing in MATLAB and Applications in MATLAB	
Mathematics		
MATH 1041	Calculus I	4
or MATH 1941	Honors Calculus I	
MATH 1042	Calculus II	4
or MATH 1942	Honors Calculus II	
MATH 2043	Calculus III	4
or MATH 2943	Honors Calculus III	
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 [1,2]		3
Economics		
ECON 1102	Microeconomic Principles	3
or ECON 1902	Honors Microeconomic Principles	
ECON 3501	Intermediate Microeconomic Analysis	3
or ECON 3701	Intermediate Microeconomic Analysis with Calculus	
ECON 3502	Intermediate Macroeconomic Analysis	3
or ECON 3702	Intermediate Macroeconomic Analysis with Calculus	
ECON 3503	Introduction to Econometrics	3

or ECON 3703	Econometric Theory	
ECON 3504	Mathematical Economics	3
ECON 3598	Economics Writing Seminar	3
Two Economics electives at the 3000 level or above, with permission from faculty advisor [2]		6
Total Credit Hours		**60-62**

Code	Title	Credit Hours
(F) - Fall only course.		
(S) - Spring only course.		

1

MATH 2041, MATH 2941, MATH 2045, or MATH 2121 may be used to fulfill the Mathematics elective at the 3000 level or above.

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.

Suggested Academic Plan

Bachelor of Arts in Mathematical Economics

Suggested Plan for New Students Starting in the 2023-2024 Academic Year

Year 1		
Fall		**Credit Hours**
MATH 1041 or MATH 1941	Calculus I or Honors Calculus I	4
Select one of the following:		3-4
CIS 1051 or CIS 1951	Introduction to Problem Solving and Programming in Python or Honors Introduction to Problem Solving and Programming in Python	
CIS 1057	Computer Programming in C	
CIS 1068 or CIS 1968	Program Design and Abstraction or Honors Program Design and Abstraction	
MATH 1033 & MATH 1034	Computing in MATLAB and Applications in MATLAB	
SCTC 1001	CST First Year Seminar	1
ENG 0802 or ENG 0812 or ENG 0902	Analytical Reading and Writing or Analytical Reading and Writing: ESL or Honors Writing About Literature	4
Elective		3-2
	Credit Hours	**15**
Spring		
ECON 1102 or ECON 1902	Microeconomic Principles or Honors Microeconomic Principles	3
MATH 1042 or MATH 1942	Calculus II or Honors Calculus II	4
IH 0851 or IH 0951	Intellectual Heritage I: The Good Life or Honors Intellectual Heritage I: The Good Life	3
GenEd Breadth Course		3
Elective		3
	Credit Hours	**16**
Year 2		
Fall		
ECON 3501 or ECON 3701	Intermediate Microeconomic Analysis or Intermediate Microeconomic Analysis with Calculus	3
MATH 2043 or MATH 2943	Calculus III or Honors Calculus III	4

IH 0852	Intellectual Heritage II: The Common Good	3
or IH 0952	or Honors Intellectual Heritage II: The Common Good	
GenEd Breadth Course		3
Elective		3
	Credit Hours	**16**
Spring		
ECON 3502	Intermediate Macroeconomic Analysis	3
or ECON 3702	or Intermediate Macroeconomic Analysis with Calculus	
MATH 2111	Basic Concepts of Math	3
GenEd Breadth Course		3
GenEd Breadth Course		3
Elective		3
	Credit Hours	**15**
Year 3		
Fall		
3000+ Economics Elective, with permission from faculty advisor [1]		3
MATH 2101	Linear Algebra	3
MATH 3031	Probability Theory I	3
Foreign Language 1001 - First Level		4
Elective		2
	Credit Hours	**15**
Spring		
ECON 3504	Mathematical Economics	3
MATH 3032	Mathematical Statistics (S)	3
3000+ Mathematics Elective [1,2]		3
Foreign Language 1002 - Second Level		4
Elective		3-2
	Credit Hours	**16-15**
Year 4		
Fall		
ECON 3503	Introduction to Econometrics	3
or ECON 3703	or Econometric Theory	
Select one of the following: [3]		3-4
MATH 3043	Numerical Analysis I (F)	
MATH 3137	Real & Complex Analysis I	
MATH 3141	Advanced Calculus I	
Upper-level CLA Course (numbered 2000 and above)		3
GenEd Breadth Course		3
GenEd Breadth Course		3
	Credit Hours	**15-16**
Spring		
ECON 3598	Economics Writing Seminar	3
3000+ Economics Elective, with permission from faculty advisor [1]		3
Select one of the following: [3]		3
MATH 3044	Numerical Analysis II	
MATH 3138	Real & Complex Analysis II	
MATH 3142	Advanced Calculus II	
Upper-level CLA Course (numbered 2000 and above)		3
GenEd Breadth Course		3
	Credit Hours	**15**
	Total Credit Hours	**123**

Code	Title	Credit Hours
(F) - Fall only course		
(S) - Spring only course		

1

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.

2

MATH 2041, MATH 2941, MATH 2045, or MATH 2121 may be used to fulfill the Mathematics elective at the 3000 level or above.

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.