MATHEMATICAL ECONOMICS MAJOR
DEPARTMENT OF ECONOMICS AND BUSINESS
and DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
THE COLORADO COLLEGE

OBJECTIVES

Students majoring in Mathematical Economics (ME) must successfully complete no fewer than 16 units of listed courses in Mathematics (MA) and Economics (EC), including a senior thesis. To solidify basic problem solving skills, all majors must initially take a common set of required courses in economic theory, calculus, linear algebra, and/or differential equations. Contingent on individual course prerequisites, majors may then directly fulfill the elective requirement which undertakes a more advanced treatment of mathematical economics, or complete a sequence of courses that provide exposure to the statistical modeling of data. This major provides strong training for students pursuing private sector careers in investment banking, forecasting, applied mathematics, or finance, as well as graduate work in economics, operations research, and financial engineering.

PREREQUISITES

Students desiring to major in ME are required to pass the following **prerequisites** prior to admission into the major. If a student has not taken all three of these courses, that student may be admitted only if currently scheduled for a later section or by consent of the department chair if mitigating circumstances exist.

To get started with this (and any of our department majors), students will need our gateway courses of Principles of Economics, either as a 2-block course (EC100) or as two separate blocks (EC101 and EC102). If students already took EC201, that counts in place of the two units of Principles of Economics. Students will also need Calculus 1 (MA125 or MA126), and Calculus 2 (MA 129),

EC100 EC101 EC102	Principles of Economics OR Principles of Microeconomics AND Principles of Macroeconomics	2 units
MA125 or MA126	Calculus 1	1 unit
MA129	Calculus 2	1 unit

International Baccalaureate (IB) Higher Level and Advanced Placement (AP) courses with registrar-approved test scores count as the equivalents of Economics 100, 101 and 102. Those scores, and answers to other IB and AP questions on course equivalents, can be found here: **https://www.coloradocollege.edu/offices/registrar/ap-and-ib-credit.html.**

DISTINCTION IN MATHEMATICAL ECONOMICS is awarded by action of both Departments (Math and Economics & Business) to up to the top 20% of graduating majors based on their GPA within the major with the provision that they have also received an A in Senior Thesis.

COURSE OF STUDY FOR THE MATHEMATICAL ECONOMICS MAJOR

To graduate as a Mathematical Economics major, students must pass the all-college requirements, while completing major components consisting of eleven units of required courses, three units of electives, and two units of senior thesis for a *total of 16 units* in the major.

A. Required Courses (total of 11 units)

Math (6 Units)

MA125 or MA126	Calculus 1 or equivalent as approved by Math Department	**1 unit**
MA129	Calculus 2 or equivalent as approved by Math Department	**1 unit**
MA204	Calculus 3	**1 unit**
MA217	Introduction to Probability and Statistics	**1 unit**
MA120	Applied Linear Algebra	**1 unit**
MA275	Sequences and Series	**1 unit**
		6 units

Economics (5 Units)

EC100 EC101 EC102	Principles of Economics OR Principles of Microeconomics AND Principles of Macroeconomics	**2 units**
EC301	Microeconomic Theory	**1 unit**
EC302	Macroeconomic Theory	**1 unit**
EC403	Econometric Theory	**1 unit**

		5 Units

B. Electives (total of 3 units)

1. Economics & Business elective

At least one elective from the following list, or other as approved in advance by the Chair of the Department of Economics and Business.

BU317	Investments	**1 unit**
dEC343	Environmental Economics II	
EC344	Industrial Organization	
EC346	Economics of Labor	
EC347	Economics of International Trade	
EC371	Money, Banking, and Financial Markets	
EC372	Economic Development	
EC377	Economics of International Finance	
		1 unit

2. Mathematics elective

At least one elective from the following list, or other as approved in advance by the chair of the Department of Mathematics.

MA220	Theoretical Linear Algebra	
MA237	Statistical Methods 1	
MA313	Probability	**1 unit**
MA315	Ordinary Differential Equations	
		1 unit

3. Mathematical Economics elective

At least one elective from the following list, or other as approved in advance by the chair of the Department of Economics and Business.

EC404	Advanced Topics in Mathematical Economics	**1 unit**
EC405	Mathematical Economics of Addiction	
EC406	Mathematical Economics of Game Theory	
EC407	Mathematical Economics of Growth	
		1 unit

C. EC 496 - Senior Thesis in Mathematical Economics (total of 2 units)

TOTAL MINIMUM REQUIRED CREDITS.....16 units

By signing below I affirm that I have received and understand the Colorado College Mathematical Economics major requirements and instructions. I understand that, if departmental requirements are changed after I declare the Mathematical Economics major, they will not be retroactive unless I so choose.

Printed Student Name

Student's Signature

Advisor's Name

Date

Student ID No.

Worner Box No.

Class (Graduation Year)