

ACTUARIAL SCIENCE AND ECONOMICS MAJOR (ASEC)

Actuarial science and economics is a joint program of the Mathematics and Economics departments. In addition to following a prescribed series of courses, students are expected to pass the first two actuarial examinations. The examinations are sponsored by leading actuarial societies and administered in numerous U.S. locations. MATH372 and MATH472 are designed to prepare students for these examinations.

All majors must meet with the undergraduate advising coordinator in the Department of Mathematics to fill out a program sheet before graduation. At least 15 credit hours in the program, at the 300-level or above, must be taken at Eastern Michigan University.

General Education Requirements35 hours

Area I Symbolics and Communication

1. See page 23
2. See page 23
3. See page 23
4. MATH120 Calculus I*
5. *One course from the following:*
 - *COSC145 Introduction to FORTRAN Programming
 - *COSC111 Introduction to Programming
 - *COSC237 Computer Programming and Numeric Methods

Area II Science and Technology

1. See page 24
2. See page 24
3. See page 24

Area III Social Sciences

1. See page 24
2. See page 24
3. ECON201 Principles of Macroeconomics*
4. ECON202 Principles of Microeconomics*

Area IV Arts and Humanities

1. See page 25
2. See page 25
3. See page 25
4. See page 25

Physical Education/Graduation Requirement2 hours

Major Requirements62 hours

Required Courses 12 hours

- ACC240 Principles of Financial Accounting (3 hrs)
ACC241 Principles of Managerial Accounting (3 hrs)

One course from the following:

- *COSC145 Introduction to FORTRAN Programming (3 hrs)
- *COSC111 Introduction to Programming (3 hrs)
- *COSC237 Computer Programming and Numeric Methods (3 hrs)

One course from the following:

- FIN350 Principles of Finance (3 hrs)
- ECON361 Corporation Finance (3 hrs)

Required Mathematics Courses 26 hours

- *MATH120 Calculus I (4 hrs)
- MATH121 Calculus II (4 hrs)
- *MATH122 Elementary Linear Algebra (3 hrs)
- MATH223 Multivariable Calculus (4 hrs)
- MATH370 Probability and Statistics I (4 hrs)
- MATH372 Problems in Actuarial Studies I (2 hrs)
- MATH471 Probability and Statistics II (3 hrs)
- MATH472 Problems in Actuarial Studies II (2 hrs)

Required Economic Courses 18 hours

- *ECON201 Principles of Macroeconomics (3 hrs)
- *ECON202 Principles of Microeconomics (3 hrs)
- ECON301 Intermediate Macroeconomic Analysis (3 hrs)
- ECON302 Intermediate Microeconomic Analysis (3 hrs)
- ECON405 Economic Analysis for Business (3 hrs)
- ECON415 Introduction to Econometrics (3 hrs)

Restricted Elective Courses 6 hours

Any combination of electives from:

- Courses at the 300-level or above in mathematics
- ECON340 Money and Banking (3 hrs)
- ECON445 Economic Fluctuation and Forecasting (3 hrs)
- ECON455 Cost-benefit Analysis (3 hrs)

Minor Requirements0 hours

No minor is required.

University Elective Courses25 hours

Program Total124 hours

Note:

**This course satisfies both a general education and a major requirement.*

ECONOMICS MAJOR (ECN)

The major in economics requires 30 credit hours, of which 15 are elected from economics courses without restriction, or as a concentration of courses in one of the following areas: business economics, economics of finance, labor economics, governmental economics, comparative economic systems, or theoretical and quantitative economics.

General Education Requirements41 hours

Area I Symbolics and Communication

1. See page 23
2. See page 23
3. See page 23
4. *One course from the following:*
 - MATH118 Linear Models and Probability
 - MATH119 Applied Calculus
 - MATH120 Calculus I

5. See page 23

Area II Science and Technology

1. See page 24
2. See page 24
3. See page 24

Area III Social Sciences

1. See page 24
2. See page 24
3. ECON201 Principles of Macroeconomics*
4. ECON202 Principles of Microeconomics*

Area IV Arts and Humanities

1. See page 25
2. See page 25
3. See page 25
4. See page 25

Physical Education/Graduation Requirement2 hours

Major Requirements30 hours

Required Courses 15 hours

- *ECON201 Principles of Macroeconomics (3 hrs)
- *ECON202 Principles of Microeconomics (3 hrs)
- ECON301 Intermediate Macroeconomic Analysis (3 hrs)
- ECON302 Intermediate Microeconomic Analysis (3 hrs)

One course from the following:

- ECON310 Economic Statistics (3 hrs)
- ECON415 Introduction to Econometrics (3 hrs)

Elective Courses 15 hours

Although any 15 credit hours of electives in economics will complete the requirements for the major, students should choose courses related to the career path they wish to pursue. Inquire at the Department of Economics regarding suggested concentrations, suggested career paths and course selection.