# ECONOMICS: MATHEMATICAL EMPHASIS

## REQUIREMENTS

### MATHEMATICS & STATISTICS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td><strong>Mathematics</strong></td>
<td></td>
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<tr>
<td><strong>Option 1—four courses:</strong></td>
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<tr>
<td>MATH 221</td>
<td>Calculus and Analytic Geometry 1</td>
<td>4</td>
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<tr>
<td>MATH 222</td>
<td>Calculus and Analytic Geometry 2</td>
<td>4</td>
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<tr>
<td>MATH 234</td>
<td>Calculus—Functions of Several Variables</td>
<td>4</td>
</tr>
<tr>
<td>MATH 320</td>
<td>Linear Algebra and Differential Equations</td>
<td>3</td>
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<tr>
<td>or MATH 340</td>
<td>Elementary Matrix and Linear Algebra</td>
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<tr>
<td><strong>Option 2—Honors sequence (3 courses):</strong></td>
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<tr>
<td>MATH 275</td>
<td>Topics in Calculus I</td>
<td>4</td>
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<tr>
<td>MATH 276</td>
<td>Topics in Calculus II</td>
<td>4</td>
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<tr>
<td>MATH 375</td>
<td>Topics in Multi-Variable Calculus and Linear Algebra</td>
<td>4</td>
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<tr>
<td><strong>Statistics (1 course)</strong></td>
<td>3</td>
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<tr>
<td>ECON 310</td>
<td>Statistics: Measurement in Economics (Recommended)</td>
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<tr>
<td>STAT 302</td>
<td>Accelerated Introduction to Statistical Methods</td>
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<tr>
<td>ECON 410</td>
<td>Introductory Econometrics</td>
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<tr>
<td>STAT/MATH 309</td>
<td>Introduction to Probability and Mathematical Statistics I</td>
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<tr>
<td>STAT 311</td>
<td>Introduction to Theory and Methods of Mathematical Statistics I</td>
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<tr>
<td>STAT 324</td>
<td>Introductory Applied Statistics for Engineers</td>
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</tbody>
</table>

Total Credits: 18-19

### ECONOMICS

30 credits to include:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td><strong>Microeconomics &amp; Macroeconomics (Select one):</strong></td>
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<tr>
<td>ECON 101 &amp; ECON 102</td>
<td>Principles of Microeconomics and Principles of Macroeconomics</td>
<td>8</td>
</tr>
<tr>
<td>ECON 111</td>
<td>Principles of Economics-Accelerated Treatment</td>
<td>4</td>
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<tr>
<td><strong>Intermediate Theory (Select one):</strong></td>
<td>6-8</td>
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<tr>
<td>ECON 301 &amp; ECON 302</td>
<td>Intermediate Microeconomic Theory and Intermediate Macroeconomic Theory</td>
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<tr>
<td><strong>Introductory Econometrics</strong></td>
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<tr>
<td>ECON 410</td>
<td>Introductory Econometrics</td>
<td>4</td>
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<tr>
<td><strong>Three Advanced ECON courses:</strong></td>
<td>6-12</td>
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<tr>
<td>ECON 390</td>
<td>Contemporary Economic Issues (Lecture 014 or 015)</td>
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<tr>
<td>ECON 435</td>
<td>The Financial System</td>
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<td>ECON 441</td>
<td>Analytical Public Finance</td>
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<td>ECON 442</td>
<td>Macroeconomic Policy</td>
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<tr>
<td>ECON 448</td>
<td>Human Resources and Economic Growth</td>
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<tr>
<td>ECON 450</td>
<td>Wages and the Labor Market</td>
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<tr>
<td>ECON 451</td>
<td>The Economic Approach to Human Behavior</td>
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<tr>
<td>ECON 455</td>
<td>Behavioral Economics</td>
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<tr>
<td>ECON 458</td>
<td>Industrial Structure and Competitive Strategy</td>
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<tr>
<td>ECON 460</td>
<td>Economic Structure and Competitive Strategy</td>
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<tr>
<td>ECON 464</td>
<td>International Trade</td>
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<tr>
<td>ECON 467</td>
<td>International Industrial Organizations</td>
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<tr>
<td>ECON 468</td>
<td>Industrial Organization and Imperfect Competition</td>
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<tr>
<td>ECON 475</td>
<td>Economics of Growth</td>
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<tr>
<td>ECON 503</td>
<td>Markets with Frictions</td>
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<tr>
<td>ECON 508</td>
<td>Wealth and Income</td>
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<tr>
<td>ECON 521</td>
<td>Game Theory and Economic Analysis</td>
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<tr>
<td>ECON 522</td>
<td>Law and Economics</td>
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<tr>
<td>ECON 525</td>
<td>Economics of Education: Theory and Measurement</td>
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<tr>
<td>ECON/POP HLTH/PUB AFFR 548</td>
<td>The Economics of Health Care</td>
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<tr>
<td>ECON 580</td>
<td>Honors Tutorial in Research Project Design</td>
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<tr>
<td>ECON 623</td>
<td>Population Economics</td>
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<tr>
<td>ECON 666</td>
<td>Issues in International Finance</td>
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</tr>
<tr>
<td>ECON 690</td>
<td>Topics in Economics</td>
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<tr>
<td><strong>Electives</strong></td>
<td>0-10</td>
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<tr>
<td>Select any Advanced course (above) or one of these Applied Economics courses:</td>
<td></td>
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<tr>
<td>ECON/ FINANCE 300</td>
<td>Introduction to Finance</td>
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<tr>
<td>ECON/ HIST SCI 305</td>
<td>Development of Economic Thought</td>
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<tr>
<td>ECON/A A E/ REAL EST/ URB R PL 306</td>
<td>The Real Estate Process</td>
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<tr>
<td>ECON/ FINANCE 320</td>
<td>Investment Theory</td>
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<tr>
<td>ECON 321</td>
<td>Sports Economics</td>
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</tbody>
</table>
ECON 330    Money and Banking
ECON/A A E/  Environmental Economics
ENVIR ST  343
ECON 364    Survey of International Economics
ECON 370    Economics of Poverty and
Inequality
ECON 390    Contemporary Economic Issues
ECON/REAL EST/
URB R PL  420    Urban and Regional Economics
ECON/A A E  421    Economic Decision Analysis
ECON/ENVIR ST/
POLI SCI/
URB R PL  449    Government and Natural Resources
ECON/A A E/
INTL BUS  462    Latin American Economic
Development
ECON 465    The American Economy to 1865
ECON/HISTORY  466    The American Economy Since 1865
ECON/A A E  473    Economic Growth and Development
in Southeast Asia
ECON/A A E  474    Economic Problems of Developing
Areas
ECON/A A E  477    Agricultural and Economic
Development in Africa
ECON/ PHILOS  524    Philosophy and Economics
ECON/A A E/
F&W ECOL  531    Natural Resource Economics
ECON/A A E  567    Public Finance in Less Developed
Countries
ECON/REAL EST/
URB R PL  641    Housing Economics and Policy
ECON/SOC  663    Population and Society
ECON/A A E/
ENVIR ST/
URB R PL  671    Energy Economics

Total Credits  30

1 Two Advanced ECON courses must be taken at UW-Madison (in
residence and not via study abroad)

RESIDENCE AND QUALITY OF WORK
• 2.000 GPA in all major and ECON courses
• 2.000 GPA on 15 upper-level major courses taken in residence
• 15 credits in ECON, taken on the UW–Madison campus

2 Intermediate- and advanced-level ECON courses are upper level in
the major.

REQUIREMENTS TO EARN HONORS IN THE ECONOMICS
MAJOR
To earn Honors in the Major in Economics, students must be declared
in and satisfy the requirements for the Economics–Mathematical
Emphasis Option (above), and satisfy the following additional
requirements:

• Earn a 3.300 University GPA
• Earn a 3.500 GPA for all ECON and major courses
• Complete the following courses, taken for Honors, with grades of B or
better in each:

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>ECON 311</td>
<td>Intermediate Microeconomic Theory - Advanced Treatment</td>
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<tr>
<td>ECON 312</td>
<td>Intermediate Macroeconomic Theory - Advanced Treatment</td>
<td></td>
</tr>
<tr>
<td>ECON 580</td>
<td>Honors Tutorial in Research Project Design</td>
<td></td>
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</table>

Select one of the following capstone experiences:

ECON 581    Honors Thesis
ECON 681    Senior Honors Thesis
& ECON 682  and Senior Honors Thesis (Take for
a total of 6 credits)

FOUR-YEAR PLAN