

# MATHEMATICS - ECONOMICS MAJOR REQUIREMENTS

## MATHEMATICS

|       |  |
|-------|--|
| _____ | Calculus I (140)                                       |
| _____ | Calculus II (150)                                      |
| _____ | Calculus III (160)                                     |
| _____ | Prob. and Statistics (207)                             |
| _____ | Foundations of Algebra (300)                           |
| _____ | Foundations of Analysis (310)                          |
| _____ | Optimization <i>or</i> Math. Stat. (435 <i>or</i> 445) |
| _____ | Additional 400+ mathematics elective                   |

## ECONOMICS

|       |   |
|-------|---|
| _____ | Introductory course                                     |
| _____ | Intermediate Micro (300)                                |
| _____ | Intermediate Macro (320)                                |
| _____ | Econometrics (380)                                      |
| _____ | _____ Three six-unit economics courses numbered 400-580 |

Other requirements:

- **300, 320 and 380** must be taken prior to the completion of junior year.
- Independent study project approved by both departments
- Advisor in each department

| <b>Mathematics Electives:</b>       | <b><u>Prerequisite</u></b> |
|-------------------------------------|----------------------------|
| <b>420</b> Numerical Analysis       | (300 and CMSC 150 or 110)  |
| <b>*435</b> Optimization            | <b>310</b>                 |
| <b>*440</b> Probability Theory      | <b>310</b>                 |
| <b>*445</b> Mathematical Statistics | <b>310, 440</b>            |
| <b>515</b> Theory of Computation    | <b>300, CMSC150</b>        |
| <b>525</b> Graph Theory             | <b>300</b>                 |
| <b>530</b> Topics in Geometry       | <b>300</b>                 |
| <b>535</b> Complex Analysis         | <b>310</b>                 |
| <b>540</b> Mathematical Logic       | <b>300</b>                 |
| <b>545</b> Rings and Fields         | <b>300</b>                 |
| <b>546</b> Groups and Symmetry      | <b>300</b>                 |
| <b>550</b> Topics in Analysis       | <b>310</b>                 |
| <b>*560</b> Topology                | <b>310</b>                 |
| <b>600</b> History of Mathematics   | <b>310</b>                 |

(Those marked with \* are recommended.)

### Introductory economics courses

|            |                             |
|------------|-----------------------------|
| <b>100</b> | Introductory Microeconomics |
| <b>120</b> | Introductory Macroeconomics |

| <b>Economics Electives:</b>         | <b><u>Prerequisite</u></b> |
|-------------------------------------|----------------------------|
| <b>400</b> Industrial Organization  | <b>300</b>                 |
| <b>410</b> Game Theory and Appl.    | <b>300</b>                 |
| <b>420</b> Money & Mon. Policy      | <b>320</b>                 |
| <b>430</b> Capital and Growth       | <b>300,320,380</b>         |
| <b>440</b> Public Expenditure       | <b>300</b>                 |
| <b>450</b> Economics of the Firm    | <b>300</b>                 |
| <b>460</b> International Economics  | <b>300,320</b>             |
| <b>470</b> Labor Economics          | <b>300,380</b>             |
| <b>480</b> Adv. Environmental Econ. | <b>300</b>                 |
| <b>490</b> Law and Economics        | <b>300</b>                 |
| <b>495</b> Adv. Topics in Econ.     | <b>300,320,380</b>         |
| <b>500</b> Advanced Micro           | <b>300</b>                 |
| <b>520</b> Advanced Macro           | <b>300,320,380</b>         |

# MATHEMATICS - ECONOMICS MAJOR REQUIREMENTS

## Distribution GERs:

### \_\_\_ \_\_\_ **2 Humanities**

Chinese, Classics, English, French, German, History, Japanese, Philosophy, Religious studies, Russian, Spanish.

*Anything if taught in English, or 300+ if in foreign language (with some exceptions).*

### \_\_\_ **1 Fine Arts**

Art, Art history, Music, Theatre.

### \_\_\_ \_\_\_ **2 Social Sciences**

Anthro, Econ, Govt, Psych.

### \_\_\_ \_\_\_ **2 Natural Sciences**

Biology, Chemistry, Geology, Mathematics, Computer science, Physics.

*Must include at least one lab course in Bio, Chem, Geology, or Physics. Enviro. studies discussion sections do not count.*

## Diversity GERs:

\_\_\_ **1 Global** (outside U.S./Europe)

\_\_\_ **1 Dimensions** (race, ethnicity, gender)

## Competency GERs

\_\_\_ **1 Writing intensive**

\_\_\_ **1 Speaking intensive**

\_\_\_ **1 Quantitative analysis**

\_\_\_ **1 in a Foreign Language** 200+ (or 4-5 AP or proficiency exam)

## General requirements:

### \_\_\_ \_\_\_ **2 Freshman Studies**

36 courses

12 courses numbered 200 or above

2.0 Lawrence GPA

2.0 Major GPA

Residency

Major (declare by start of junior year)

## GER stipulations

A single course may not count toward both Distribution and Diversity.

A single course may count toward Competency and *either* Distribution *or* Diversity.

No course may count toward more than one Competency requirement.

AP or transfer credits may fulfill GERs.

## General stipulations (toward the 36)

Max 25 courses in a single division.

Max 15 courses in a single department (w/ some Art exceptions).

Max 7 courses in Education.

Max 2 courses from academic internships.