ECONOMICS AND MATHEMATICS

Directors of undergraduate studies: Anthony Smith (Economics), Rm. 306, 28 Hillhouse Ave., 432-3583 or 432-3574, qazi.azam@yale.edu; Andrew Casson (Mathematics), 216 LOM, 432-7056, andrew.casson@yale.edu

The Economics and Mathematics major is intended for students with a strong intellectual interest in both mathematics and economics and for students who may pursue a graduate degree in economics.

Prerequisites The major has prerequisites in both mathematics and economics: MATH 120; ECON 110 or 115; and ECON 111 or 116. With permission of the directors of undergraduate studies, upper-level courses may be substituted for prerequisite courses. Upper-level courses substituted for prerequisites do not count toward the total of twelve term courses (beyond the introductory level in economics and mathematics) required for the major.

Requirements of the major A total of twelve term courses is required beyond the introductory level in economics and in mathematics: seven term courses in economics and five term courses in mathematics. These courses must include:

1. One intermediate microeconomics course chosen from ECON 121 or 125, and one intermediate macroeconomics course chosen from ECON 122 or 126
2. A year of mathematical economics, ECON 350 and 351
3. Two courses in econometrics, ECON 135 and 136 (with permission of the director of undergraduate studies in Economics, STAT 241 and 242 may be taken instead of ECON 135, in which case they count as one economics course and not as mathematics courses)
4. A course in linear algebra, MATH 222 or 225 (or 230 and 231, for two course credits)
5. An introductory course in analysis, MATH 300 or 301
6. Senior seminar in mathematics, MATH 480

Because optimization is an important theme in mathematics and is particularly relevant for economics, OPRS 235 is recommended for students majoring in Economics and Mathematics and can be counted toward either the Mathematics or Economics course requirements.

Credit/D/Fail courses For students in the Class of 2016 and subsequent classes, courses taken Credit/D/Fail may not be counted toward the requirements of the major.

Distinction in the Major To be considered for Distinction in the Major, students must meet specified grade standards (see the Undergraduate Curriculum section) and submit a senior essay written either in an Economics department seminar or in ECON 491 or in 491 and 492 to the Economics department; for details see under Economics. (The paper must be written in a course taken in the senior year.) All courses beyond the introductory level in Mathematics and Economics are counted in the computation of grades for Distinction.

Approval of program Students interested in the major should consult both directors of undergraduate studies, and verify with each that their proposed program meets the relevant guidelines. Registration forms must be signed by both directors of undergraduate studies each term.

REQUIREMENTS OF THE MAJOR

Prerequisites MATH 120; ECON 110 or 115; ECON 111 or 116
Number of courses 12 term courses beyond prereqs (incl senior req)
Distribution of courses 5 courses in math and 7 in econ
Specific courses required ECON 121 or 125; ECON 122 or 126; ECON 135, 136, 350, 351; MATH 222 or 225 (or 230, 231); MATH 300 or 301
Substitution permitted STAT 241 and 242 for ECON 135, with permission of DUS in Econ
Senior requirement Senior sem in math (MATH 480); optional senior essay in Econ