

**ECONOMICS-MATHEMATICS MAJOR**  
**Undergraduate Requirement Check List**

**General Notes**

- 1) This is a check list for your convenience only. It does not replace the bulletin. For details regarding the requirements below you must consult the bulletin.
- 2) You must receive a grade of **C-** or higher in any class taken for major credit. The **ONLY** exception is UN1105 Principles which you may take Pass/D/Fail and must receive a “P” grade for it to count towards the major. If you have taken a required class **P/D/F**, then you will be required to **uncover the P.** After receiving a P, you may not retake a course for a letter grade.
- 3) You must have all **transfer credits** for economics classes approved by the economics department. For information on what transfer courses will be accepted and how to obtain approval for transfer credits in economics, math and statistics, go to: <http://econ.columbia.edu/transfer-credit-information>.
- 4) **Econ and Math AP/IB/GCE Credits** - **CC Students:** said credits must appear in your SSOL transcript in order for the department to credit you with the completion of those core courses (*ECON UN1105, MATH UN1101-UN1102*). **GS Students:** Said credits must be noted in your student file in order for the department to credit you with the completion of those core courses.
- 5) You will not receive major credit for a course taken before the completion of its pre-requisites.

**ECONOMICS Requirements**

**I. Core Courses**

All core courses must be completed by the spring semester of your junior year. You may only take a core course during your senior year with written approval of the economics department.

- \_\_\_\_\_ UN1105 **Principles of Economics** or AP credits (you must have a grade of 9 or 10 on the AP exam) or IB credits (6 or 7 on the higher level exam)
- \_\_\_\_\_ UN3211 **Intermediate Microeconomics** (*Pre-reqs: ECON UN1105; MATH UN1201 or UN1205 or UN1207*)
- \_\_\_\_\_ UN3213 **Intermediate Macroeconomics** (*Pre-reqs: ECON UN1105 and MATH UN1101; Co-Req: MATH UN1201, or UN1205, or UN1207*)
- \_\_\_\_\_ UN3412 **Introduction to Econometrics** (*Pre-reqs: ECON UN3211 or UN3213; MATH UN1201 or UN1205 or UN1207; STAT UN1201*)

List any **departmental approved substitution(s)**, including transfer credits, for above requirements.

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**II. Electives**

You must take 3 electives in economics at the 3000 level or higher. All electives in the department at the 3000 or 4000 level require BOTH UN3211 and UN3213 as pre-requisites (and some have additional pre-requisites). See the bulletin for information regarding which courses count as economics electives. Please consult the bulletin for pre-requisites for Barnard elective courses.

	<u>Course No.</u>	<u>Title</u>
1)	_____	_____
2)	_____	_____
3)	_____	_____

### Rules for Barnard Electives, Transfer and AP Credits:

The joint major with Mathematics must take a minimum of **7** lecture courses in economics (this count does not include courses in math and statistics). Students are required to take a **minimum of 5 lecture courses in the department**. Credits from *Barnard 3000 level electives, departmental approved transfer credits, and AP/IB/GCE* may be used to fulfill the requirements for the remaining **2** lecture courses.

**List number of courses taken in the Economics Department:** \_\_\_\_\_ (*minimum = 5*)

### III. Seminar

*One* is required from the following: ECON GU4911 *Micro*, GU4913 *Macro*, GU4918 *Econometrics*, GU4921 *Political Economy*. *Barnard* seminars are *not* allowed to be taken to fulfill this requirement. All seminars have the following pre-requisites: UN3211, UN3213 and UN3412. GU4921 has an additional prerequisite of GU4370.

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List any **approved substitution(s)**, including transfer credits, for above requirements.

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## MATHEMATICS and STATISTICS Requirements (Consult with the **Math department**)

### I. Required Courses

- You must take *one* of the following sequences:

\_\_\_\_\_ MATH UN1101 Calculus I (or AP credits)  
 MATH UN1102 Calculus II (or AP credits)  
 MATH UN1201 Calculus III or UN1205\* Accelerated Multivariable Calculus  
 MATH UN2010 Linear Algebra

\_\_\_\_\_ MATH UN1207 Honors Math  
 MATH UN1208 Honors Math

### II. Analysis Requirement

- MATH UN2500 Analysis and Optimization

### III. Elective courses

*Three* of the following:

- MATH UN1202\* *Calculus IV*
- MATH UN2030 *Ordinary Differential Equations*
- Any math course at the 3000 level or above

**\*Note:** Students who take MATH UN1205 may not take MATH UN1202 for elective credit.

### IV. Statistics

You must take *one* of the following courses:

\_\_\_\_\_ STAT GU4001 (*W4150*) Intro to Probability and Statistics  
 \_\_\_\_\_ STAT GU4203 (*W3105*) Introduction to statistics: probability models  
 and STAT GU4204 (*W3107*) Statistical Inference

Notes:

- 1) Students who fulfill the statistics requirement with STAT GU4203 and GU4204 may count either STAT GU4203 or GU4204 as one of the three required mathematics electives.
  
- 2) Students who choose the one year sequence (STAT GU4203/ STAT GU4204), must complete the year-long sequence prior to taking ECON UN3412 Econometrics. Students will receive elective credit for the probability course.

Students who have questions about any of the above requirements should first consult the bulletin or the online **FAQ page** at:

[http://www.columbia.edu/cu/economics/undergraduate/s5\\_4\\_3.html](http://www.columbia.edu/cu/economics/undergraduate/s5_4_3.html)

If after consulting the bulletin and the FAQ page you still have questions, then contact:

[econ-advising@columbia.edu](mailto:econ-advising@columbia.edu).