

## College of Arts and Science: Graduation Plan for Bachelor of Science in Mathematics for Mathematics/Economics Double Majors

You may file a Graduation Plan in Math after completion of English 1000 and Math 2300. You must have an overall GPA of 2.5 or above, and a GPA in Math courses used for the degree of 2.5 or above. All Math courses used for the major must be passed with a C- grade or above.

Name (Last, first): \_\_\_\_\_

Pawprint: \_\_\_\_\_

Student Number: \_\_\_\_\_

Expected Graduation Semester: \_\_\_\_\_

Date: \_\_\_\_\_

### Required Math Courses

Course No.	Course Title	Cr. hrs.	Course No.	Course Title	Cr. hrs.
MATH 1500	Calculus I	5	MATH 4100	Differential Equations	3
MATH 1700	Calculus II	5	MATH 4140	Matrix Theory	3
MATH 2300	Calculus III	3	MATH 4700	Adv Calculus of One Real Var I	3
MATH 3000	Intro to Adv Math	3			

Fill in the blank above with one of:

MATH 4310 (Num Linear Algebra), MATH 4720 (Intro to Abstract Algebra), MATH 4900 (Adv Multivariable Calc)

### 4000 LEVEL MATH ELECTIVES Choose 4 or more courses from the list below (all are 3 credit courses)

Course No.	Course Title	Course No.	Course Title
MATH 4150	History of Mathematics	MATH 4372	Models for Life Contingencies II
MATH 4300	Numerical Analysis	MATH 4400	Intro to Topology
MATH 4310	Numerical Linear Algebra	MATH 4500	Applied Analysis
STAT 4710/MATH 4315	Intro to Mathematical Statistics	STAT 4760/MATH 4520	Statistical Inference
STAT 4750/MATH 4320	Intro to Probability Theory	MATH 4540	Mathematical Modeling I
MATH 4330	Theory of Numbers	MATH 4590	Math. of Financial Derivatives II
MATH 4350	Intro to Non-Euclidean Geometry	MATH 4900	Adv Multivariable Calculus
MATH 4355	Math. of Financial Derivatives I	MATH 4920	Intro to Abstract Linear Algebra
MATH 4370	Interest Theory	MATH 4940	Intro to Complex Variables
MATH 4371	Models for Life Contingencies I		

Other 4000+ MATH courses as approved by the Undergraduate Mathematics Advisor (MATH 4060/4070/4080/4510 may not be used as Math Electives).

Indicate 4 course numbers for your electives (MATH 4310/4900 may be used here only if not chosen above):

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_

### RELATED FIELD COURSES

A minimum of 10 hours (total) from the two groups below. You must have at least one course in each group.

**Group 1 (Science):** BIO.SC 1500 (General Biology), CHEM 1320 (College Chemistry I), CHEM 1330 (College Chemistry II), PHYSCS 2750 (University Physics I), PHYSCS 2760 (University Physics II) The Bio and Physics courses are 5 credits each. Chem 1320 and 1330 are 4 credits each.

Group 1 courses (Dept and Number): \_\_\_\_\_

**Group 2:** 4000 level courses in Statistics and/or Computer Science You may use one course cross-listed in Math and Statistics to count as both a Group 2 course and as a 4000 level Math elective.

Dept.	Course No.	Course Title	Cr. hrs.

### BASIC PROGRAMMING REQUIREMENT (circle one)

INFOTC 1040 (Intro to Problem Solving and Programming), or CMP SC 1050 (Algorithm Design and Programming I).

### SIGNATURES

Student \_\_\_\_\_ Date \_\_\_\_\_

Undergraduate Mathematics Advisor \_\_\_\_\_ Date \_\_\_\_\_

Dean of A & S \_\_\_\_\_ Date \_\_\_\_\_

After filling out this form, have it signed and dated by the Undergraduate Mathematics Advisor (Dustin Belt, 201 Math Sciences Bldg., 573-882-4898). Make two photocopies of the signed form. Then make an appointment to file a grad plan in Math with the A&S Advising Office (107 Lowry Hall, 573-882-6411). Bring all three copies to this appointment to get the Dean's stamp.

Last updated: 9/2018

## ARTS & SCIENCE FOUNDATION REQUIREMENTS

Please see <http://generaleducation.missouri.edu/courses/> for a searchable web page. You may check which courses are general education courses, and see which College (e.g., A&S), the course is taught in. This information is important for the A&S DEPTH requirement below.

**ENGLISH COMPOSITION REQUIREMENT** You must complete ENGLISH 1000, Exposition and Argumentation.

**FOREIGN LANGUAGE OR ALTERNATIVE** You may complete this requirement in one of four ways: being a non-native English speaker, 4 years of a language in high school, complete a language sequence at MU, or complete the Foreign Language Alternative.

Check if you are a non-native English speaker, or

Check if you completed 4 years of a foreign language in high school (in this case, no credit hours from that language at the introductory level may be used toward graduation), or

Check if you will complete a Foreign Language at MU, and circle one:

Chinese, French, German, Greek, Hebrew, Italian, Japanese, Korean, Latin, Portuguese, Russian, Spanish,

or

Check if you will complete a Foreign Language Alternative (12 hours of courses from one area outside of Mathematics at the 2000 level or above — this must be approved by the Undergraduate Mathematics Advisor). List courses in the table.

Dept.	Course No.	Course Title	Cr. hrs.

### BREADTH OF STUDY

<p><b>Behavioral and Social Sciences:</b> 9 hours combined, with at least one behavioral science and one social science. At most one course may be a non A&amp;S course.</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Dept.</th> <th>Course No.</th> <th>Cr. hrs.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Dept.	Course No.	Cr. hrs.										<p><b>Humanities and Fine Arts:</b> 9 hours from at least two different departments. At most one course may be a non A&amp;S course.</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Dept.</th> <th>Course No.</th> <th>Cr. hrs.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Dept.	Course No.	Cr. hrs.									
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### DEPTH OF STUDY

<p>6 hours of courses (total) from at least 2 of the 3 categories below. These must be 2000 level (or above) general education courses, and at least one must be taught by a department in A&amp;S. These courses may also be listed in the BREADTH section.</p> <ul style="list-style-type: none"> <li>• Social Science: _____</li> <li>• Behavioral Science: _____</li> <li>• Humanities and Fine Arts: _____</li> </ul>
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### AMERICAN HISTORY OR GOVERNMENT REQUIREMENT

See <http://generaleducation.missouri.edu/requirements/> for courses available. This course may also be listed as a Social Science BREADTH and/or DEPTH course.

MO gov't course: \_\_\_\_\_

### A&S DIVERSITY REQUIREMENT (DI)-For students beginning college Fall 2017 or later

See <https://coas.missouri.edu/diversity-intensive-course-list> for courses available. This course may also be listed as a BREADTH and/or DEPTH course.

DI course: \_\_\_\_\_

### ADDITIONAL A&S AND MU REQUIREMENTS

- Writing Intensive requirement: You must have two WI courses. Math 3000 will be your WI course in your major. The other may be anywhere in the curriculum (e.g., a course satisfying your BREADTH requirement). Please see <http://generaleducation.missouri.edu/requirements/writing.php> for more information.
- 30 of the last 36 hours must be taken as MU courses.
- GPA requirements for graduation: A 2.0 cumulative, in the major, in any minor, in the final 30 hours, and in the final 60 hours.
- 120 hours of degree applicable credits (132 if you are getting a dual degree).