MINOR IN MATHEMATICS

Program Learning Outcomes for the Minor in Mathematics

Upon completing the minor in Mathematics, students will have:

1. Achieved practical fluency in calculus and linear algebra.
2. Acquired a background at the undergraduate level in a small variety of central areas of mathematics.
3. Become acquainted with formal mathematical reasoning, including proofs.

Requirements for the Minor in Mathematics

Students pursuing the minor in Mathematics must complete:

- A minimum of 6 courses (18 credit hours) to satisfy minor requirements.
- A minimum of 4 courses (12 credit hours) taken at the 300-level or above.

The courses listed below satisfy the requirements for this minor. In certain instances, courses not on this official list may be substituted upon approval of the minor's academic advisor, or where applicable, the Program Director. (Course substitutions must be formally applied and entered into Degree Works by the minor's Official Certifier (https://registrar.rice.edu/facstaff/degeworks/officialcertifier/). Students and their academic advisors should identify and clearly document the courses to be taken.

### Summary

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td></td>
<td>Total Credit Hours Required for the Minor in Mathematics</td>
<td>18</td>
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### Minor Requirements

#### Core Requirements 1, 2, 3

**Analysis**

- Select 1 from the following:
  - MATH 302 ELEMENTS OF ANALYSIS
  - MATH 321 INTRODUCTION TO ANALYSIS I
  - MATH 331 HONORS ANALYSIS
  - MATH 381 INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS
  - MATH 382 COMPUTATIONAL COMPLEX ANALYSIS

**Discrete Mathematics and Algebra**

- Select 1 from the following:
  - MATH 306 ELEMENTS OF ABSTRACT ALGEBRA
  - MATH 356 ABSTRACT ALGEBRA I
  - MATH 365 NUMBER THEORY
  - MATH 368 TOPICS IN COMBINATORICS

### Elective Requirements 1, 3, 4

Select 3 additional courses from departmental (MATH) course offerings.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MATH 221</td>
<td>HONORS CALCULUS III</td>
<td></td>
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<tr>
<td>MATH 354</td>
<td>HONORS LINEAR ALGEBRA</td>
<td></td>
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<tr>
<td>MATH 355</td>
<td>LINEAR ALGEBRA</td>
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### Footnotes and Additional Information

1. The required 6 courses (18 credit hours) for the minor must be selected from departmental (MATH) course offerings at the 200-level or above. At most 1 course (3 credit hours) from any particular course or course number may be applied to the minor.

2. Certain approved courses taken outside the mathematics department may be used to satisfy one area of the Core Requirements (Analysis, Discrete Mathematics and Algebra, or Linear Algebra), but will not count towards the required 6 courses (18 credit hours). An approved upper-level departmental (MATH) course (other than courses numbered MATH 490 through MATH 499) may be used to satisfy an area of the Core Requirements. Students seeking to substitute approved courses should consult in advance with the chair of the undergraduate committee.

3. A minimum of 4 courses (12 credit hours) must be taken from departmental (MATH) course offerings at the 300-level or above in order to meet minor requirements.

4. At most 3 credit hours from courses numbered MATH 490 through MATH 499 (research and supervised reading courses) can count towards Elective Requirements.

### Policies for the Minor in Mathematics

#### Program Restrictions and Exclusions

Students pursuing the minor in Mathematics should be aware of the following program restriction:

- As noted in Majors, Minors, and Certificates (https://ga.rice.edu/undergraduate-students/academic-opportunities/majors-minors-certificates/), i.) students may declare their intent to pursue a minor only after they have first declared a major, and ii.) students may not major and minor in the same subject.

#### Transfer Credit

For Rice University’s policy regarding transfer credit, see Transfer Credit (https://ga.rice.edu/undergraduate-students/academic-policies-procedures/transfer-credit/). Some departments and programs have additional restrictions on transfer credit. The Office of Academic Advising maintains the university’s official list of transfer credit advisors on their website: https://oaa.rice.edu. Students are encouraged to meet with their academic program’s transfer credit advisor when considering transfer credit possibilities.

#### Departmental Transfer Credit Guidelines

Students pursuing the minor in Mathematics should be aware of the following departmental transfer credit guidelines:

- Requests for transfer credit will be considered by the program director (and/or the program’s official transfer credit advisor) on an individual case-by-case basis.
Additional Information
For additional information, please see the Mathematics website: https://math.rice.edu/

Opportunities for the Minor in Mathematics

Academic Honors
The university recognizes academic excellence achieved over an undergraduate's academic history at Rice. For information on university honors, please see Latin Honors (https://ga.rice.edu/undergraduate-students/honors-distinctions/university/) (summa cum laude, magna cum laude, and cum laude) and Distinction in Research and Creative Work (https://ga.rice.edu/undergraduate-students/honors-distinctions/university/). Some departments have department-specific Honors awards or designations.

Additional Information
For additional information, please see the Mathematics website: https://math.rice.edu/