Mathematics

MATH 414  Mathematical Logic  credit: 3 OR 4 hours.
Introduction to the formalization of mathematics and the study of axiomatic systems; expressive power of logical formulas; detailed
treatment of propositional logical and predicate logic; compactness theorem and Godel completeness theorem, with applications to
specific mathematical theories; algorithmic aspects of logical formulas. Proofs are emphasized in this course, which can serve as an
introduction to abstract mathematics and rigorous proof; some ability to do mathematical reasoning required. 3 or 4 undergraduate
hours. 3 or 4 graduate hours. 4 hours of credit requires approval of the instructor and department with completion of additional work of
substance. Prerequisite: MATH 347 or MATH 348 or equivalent experience.

This course satisfies the General Education Criteria for a:
Quantitative Reasoning II

<table>
<thead>
<tr>
<th>CRN</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Days</th>
<th>Location</th>
<th>Instructor</th>
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</thead>
<tbody>
<tr>
<td>37954</td>
<td>Lecture-Discussion</td>
<td>C13</td>
<td>10:00 AM - 10:50 AM</td>
<td>MWF</td>
<td>143 - Henry Administration Bldg</td>
<td>Van Den Dries, L</td>
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</tbody>
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Credit Hours: 3 hours
Quant Reasoning II course.
Open to both undergraduate and graduate students.

| 37956| Lecture-Discussion  | C14     | 10:00 AM - 10:50 AM | MWF  | 143 - Henry Administration Bldg | Van Den Dries, L    |

Credit Hours: 4 hours
Quant Reasoning II course.
Instructor Approval Required
Not intended for Undergrad - Urbana-Champaign.
Instructor approval forms available in 313 Altgeld Hall beginning on the first day of spring semester.