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>
</tr>
</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>241 - Altgeld Hall</td>
<td>van den Dries, L</td>
</tr>
</tbody>
</table>

Credit Hours: 3 hours
Quantitative Reasoning II course.
Open to both undergraduate and graduate students.

<table>
<thead>
<tr>
<th>CRN</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Days</th>
<th>Location</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>37956</td>
<td>Lecture-Discussion</td>
<td>C14</td>
<td>10:00 AM - 10:50 AM</td>
<td>MWF</td>
<td>241 - Altgeld Hall</td>
<td>van den Dries, L</td>
</tr>
</tbody>
</table>

Credit Hours: 4 hours
Quantitative Reasoning II course.
Instructor Approval Required
Not intended for Undergrad - Urbana-Champaign.
Graduate students requesting the 4 credit hour section must first register for the 3 hour section. If the instructor is willing to offer
extra work to graduate students for the 4-hour section, students can get an approval form from 313 Altgeld Hall between the first day
of the semester and the 8th week of the semester.