Mathematics

MATH 417  **Intro to Abstract Algebra**  credit: 3 OR 4 hours.
Fundamental theorem of arithmetic, congruences. Permutations. Groups and subgroups, homomorphisms. Group actions with applications. Polynomials. Subrings, subfields, and ideals. Integral domains and fields. Roots of polynomials. Maximal ideals, construction of fields. 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: Either MATH 416 or one of MATH 410, MATH 415 together with one of MATH 347, MATH 348, CS 373; or consent of instructor.

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

<table>
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<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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<tr>
<td>32108</td>
<td>Lecture-Discussion</td>
<td>F13</td>
<td>02:00 PM-02:50 PM</td>
<td>MWF</td>
<td>149 - Henry Administration Bldg</td>
<td>Ivanov, S</td>
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<td>32110</td>
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<td>F14</td>
<td>02:00 PM-02:50 PM</td>
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<td>Kedem, R</td>
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</tbody>
</table>

Credit Hours: 3 hours
Quant Reasoning II course.
Restricted to Mathematics and Math/CS majors until the morning of April 29, 2014.

Credit Hours: 4 hours
Quant Reasoning II course.
Instructor Approval Required
Restricted to Graduate - Urbana-Champaign.
Instructor approval forms available in 313 Altgeld Hall beginning on the first day of Fall semester.

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