MATH 415  **Applied Linear Algebra**  credit: 3 OR 4 hours.
Introductory course emphasizing techniques of linear algebra with applications to engineering; topics include matrix operations, determinants, linear equations, vector spaces, linear transformations, eigenvalues, and eigenvectors, inner products and norms, orthogonality, equilibrium, and linear dynamical systems. 4 hours of credit requires approval of the instructor and department with completion of additional work of substance. Credit is not given for both MATH 415 and any of MATH 125, MATH 225, or MATH 410. Prerequisite: MATH 241 or consent of instructor.

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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<tbody>
<tr>
<td>34447</td>
<td>Lecture-Discussion</td>
<td>B13</td>
<td>09:00 AM - 09:50 AM</td>
<td>MWF</td>
<td>156 - Henry Administration Bldg</td>
<td>La Nave, G</td>
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Credit Hours: 3 hours
Quant Reasoning II course.
Restricted to Computer Engineering or Computer Science or Electrical Engineering or Engineering Mechanics or Engineering Physics or Industrial Engineering or Mechanical Engineering or Physics or Chemical Engineering or Statistics or Mathematics or Statistics & Computer Science or Math & Computer Science major(s).

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<td>39123</td>
<td>Lecture-Discussion</td>
<td>B14</td>
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Credit Hours: 4 hours
Quant Reasoning II course.
Instructor Approval Required
Restricted to Graduate - Urbana-Champaign.

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<td>Frankland, M</td>
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Credit Hours: 3 hours
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Credit Hours: 4 hours
Quant Reasoning II course.
Instructor Approval Required
Restricted to Graduate - Urbana-Champaign.

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<tr>
<td>41587</td>
<td>Online</td>
<td>EGR</td>
<td>ARRANGED -</td>
<td>-</td>
<td>-</td>
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Online
Quant Reasoning II course.
## Credit Hours: 3 hours
Quant Reasoning II course.
Restricted to Computer Engineering or Computer Science or Electrical Engineering or Engineering Mechanics or Engineering Physics or Industrial Engineering or Mechanical Engineering or Physics or Chemical Engineering or Statistics or Mathematics or Statistics & Computer Science or Math & Computer Science major(s).
Uses Mathematica courseware. See [http://www.math.uiuc.edu/timetable/](http://www.math.uiuc.edu/timetable/) for details. Enrollment is restricted to majors requiring this course. For questions contact advising@math.uiuc.edu. Remaining seats may be made available after priority registration ends or on the first day of class.

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<td>Laboratory-Discussion</td>
<td>F83</td>
<td>02:00 PM - 02:50 PM</td>
<td>MWF</td>
<td>245 - Altgeld Hall</td>
<td>Carpenter, B</td>
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Credit Hours: 4 hours
Quant Reasoning II course.
Instructor Approval Required
Restricted to Graduate - Urbana-Champaign.
Uses Mathematica courseware. See [http://www.math.uiuc.edu/timetable/](http://www.math.uiuc.edu/timetable/) for details. Enrollment is restricted to majors requiring this course. For questions contact advising@math.uiuc.edu. Remaining seats may be made available after priority registration ends or on the first day of class.

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<td>245 - Altgeld Hall</td>
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Credit Hours: 3 hours
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<td>Haboush, W</td>
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Credit Hours: 4 hours
Quant Reasoning II course.
Departmental Approval Required
Enrollment is restricted to majors requiring this course. For questions contact advising@math.uiuc.edu. Remaining seats may be made available after priority registration ends or on the first day of class.

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Credit Hours: 3 hours
Quant Reasoning II course.
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<td>253 - Mechanical Engineering Bldg</td>
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