# Mathematics

**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, MATH 410, or MATH 416. Prerequisite: MATH 241 or consent of instructor.

<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>Bergvelt, M</td>
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Credit Hours: 3 hours  
Restricted to Computer Engineering or Computer Science or Electrical Engineering or Engineering Mechanics or Engineering Physics or General Engineering or Industrial Engineering or Mechanical Engineering or Physics or Chemical Engineering or Statistics or Statistics & Computer Science or Math & Computer Science major(s).

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<tbody>
<tr>
<td>39123</td>
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Credit Hours: 4 hours  
Instructor Approval Required  
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<td>MWF</td>
<td>106B8 - Engineering Hall</td>
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<td>156 - Henry Administration Bldg</td>
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Restricted to MS: Civil Engr - Online - UIUC, MCS:Computer Sci Online -UIUC, MS: Mechanical Engineering -UIUC, or NDEG:Grad Nondegree-CE/UIUC.

Restricted to online non-degree, online MCS, online MSME and online MS CE students. Online & Continuing Education (OCE) restrictions and assessments apply, see http://www.oce.illinois.edu. For more details on this course section, please see http://online.engineering.illinois.edu/descriptions/fall2012.htm

OCE Tuition $1000.00 per Bill Hour, and OCE Fees $50.00 per Bill Hour.
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>MWF</td>
<td>1002 - Lincoln Hall</td>
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