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, or MATH 410. 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>
</tr>
</thead>
<tbody>
<tr>
<td>30979</td>
<td>Lecture-Discussion</td>
<td>B3</td>
<td>09:00 AM - 09:50 AM</td>
<td>MTWRF</td>
<td>141 - Altgeld Hall</td>
<td>Parrish, A</td>
</tr>
<tr>
<td></td>
<td>Lecture-Discussion</td>
<td>B3</td>
<td>11:00 AM - 11:50 AM</td>
<td>W</td>
<td>141 - Altgeld Hall</td>
<td>Parrish, A</td>
</tr>
</tbody>
</table>

Credit Hours: 3 hours
Meets 11-Jun-12 - 02-Aug-12.

<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>30978</td>
<td>Lecture-Discussion</td>
<td>B4</td>
<td>09:00 AM - 09:50 AM</td>
<td>MTWRF</td>
<td>141 - Altgeld Hall</td>
<td>Parrish, A</td>
</tr>
<tr>
<td></td>
<td>Lecture-Discussion</td>
<td>B4</td>
<td>11:00 AM - 11:50 AM</td>
<td>W</td>
<td>141 - Altgeld Hall</td>
<td>Parrish, A</td>
</tr>
</tbody>
</table>

Credit Hours: 4 hours
Departmental Approval Required
Meets 11-Jun-12 - 02-Aug-12.

<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>31122</td>
<td>Lecture-Discussion</td>
<td>D3</td>
<td>11:00 AM - 11:50 AM</td>
<td>MTWRF</td>
<td>245 - Altgeld Hall</td>
<td>Muncaster, R</td>
</tr>
<tr>
<td></td>
<td>Lecture-Discussion</td>
<td>D3</td>
<td>03:00 PM - 03:50 PM</td>
<td>R</td>
<td>245 - Altgeld Hall</td>
<td>Muncaster, R</td>
</tr>
</tbody>
</table>

Credit Hours: 3 hours
Meets 11-Jun-12 - 02-Aug-12.

<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>31123</td>
<td>Lecture-Discussion</td>
<td>D4</td>
<td>11:00 AM - 11:50 AM</td>
<td>MTWRF</td>
<td>245 - Altgeld Hall</td>
<td>Muncaster, R</td>
</tr>
<tr>
<td></td>
<td>Lecture-Discussion</td>
<td>D4</td>
<td>03:00 PM - 03:50 PM</td>
<td>R</td>
<td>245 - Altgeld Hall</td>
<td>Muncaster, R</td>
</tr>
</tbody>
</table>

Credit Hours: 4 hours
Departmental Approval Required
Meets 11-Jun-12 - 02-Aug-12.

<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>36763</td>
<td>Lecture-Discussion</td>
<td>E3</td>
<td>01:00 PM - 01:50 PM</td>
<td>MTWRF</td>
<td>245 - Altgeld Hall</td>
<td>Muncaster, R</td>
</tr>
<tr>
<td></td>
<td>Lecture-Discussion</td>
<td>E3</td>
<td>03:00 PM - 03:50 PM</td>
<td>M</td>
<td>245 - Altgeld Hall</td>
<td>Muncaster, R</td>
</tr>
</tbody>
</table>

Credit Hours: 3 hours
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Days</th>
<th>Location</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>36764</td>
<td>Lecture-Discussion</td>
<td>E4</td>
<td>01:00 PM - 01:50 PM</td>
<td>MTWRF</td>
<td>245 - Altgeld Hall</td>
<td>Muncaster, R</td>
</tr>
<tr>
<td></td>
<td>Lecture-Discussion</td>
<td>E4</td>
<td>03:00 PM - 03:50 PM</td>
<td>M</td>
<td>245 - Altgeld Hall</td>
<td>Muncaster, R</td>
</tr>
</tbody>
</table>

Credit Hours: 4 hours
Departmental Approval Required
Meets 11-Jun-12 - 02-Aug-12.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Location</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>31858</td>
<td>Online</td>
<td>EGR</td>
<td>ARRANGED -</td>
<td>-</td>
<td>Carpenter, B</td>
</tr>
</tbody>
</table>

Restricted to MS: Civil Engr - Online - UIUC, MCS:Computer Sci Online -UIUC, MS:Mechanical Engineering -UIUC, or NDEG:Grad Nondegree-CE-UIUC.
Meets 29-May-12 - 02-Aug-12.
Restricted to online non-degree, online MCS, online MSME and online MS CE students. Online and Continuing Education (OCE) restrictions and assessments apply, see [http://www.oce.illinois.edu](http://www.oce.illinois.edu). For more details on this course section, please see [http://online.engineering.illinois.edu/descriptions/summer2012.htm](http://online.engineering.illinois.edu/descriptions/summer2012.htm)
OCE Tuition $988.00 per Bill Hour, and OCE Fees $50.00 per Bill Hour.