Mathematics

MATH 448  **Complex Variables**  credit: 3 OR 4 hours.

For students who desire a rigorous introduction to the theory of functions of a complex variable; topics include Cauchy's theorem, the residue theorem, the maximum modulus theorem, Laurent series, the fundamental theorem of algebra, and the argument principle. 3 or 4 undergraduate hours. 3 or 4 graduate hours. Credit is not given for both MATH 448 and MATH 446. 4 hours of credit requires approval of the instructor and department with completion of additional work of substance. Prerequisite: MATH 447.

<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>38033</td>
<td>Lecture-Discussion</td>
<td>D13</td>
<td>09:30 AM - 10:50 AM</td>
<td>TR</td>
<td>137 - Henry Administration Bldg</td>
<td>Tumanov, A</td>
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<td>Credit Hours: 3 hours</td>
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<td>Open to both undergraduate and graduate students.</td>
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<td>38034</td>
<td>Lecture-Discussion</td>
<td>D14</td>
<td>09:30 AM - 10:50 AM</td>
<td>TR</td>
<td>137 - Henry Administration Bldg</td>
<td>Tumanov, A</td>
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<td>Credit Hours: 4 hours</td>
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<td>Instructor Approval Required</td>
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<td>Not intended for Undergrad - Urbana-Champaign.</td>
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<td>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.</td>
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<td>69638</td>
<td>Online</td>
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<td>Carpenter, B</td>
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<td>Credit Hours: 3 hours</td>
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<td>Restricted to MS: Civil Engr - Online - UIUC, MCS:Computer Sci Online -UIUC, MS:Industrial Engr Online-UIUC, MS:Mechanical Engineering -UIUC, MS:Env Engr CivilEngr ONL-UIUC, MS: Aerospace Engr-Online-UIUC, or MENG:Mech Engineering Onl-UIUC. Restricted to online MCS, online MSME, online MSAE and online MSCE students only. Online non-degree and campus undergraduates are not eligible to register for this section. For more details on this course section, please see <a href="http://engineering.illinois.edu/online/courses/">http://engineering.illinois.edu/online/courses/</a>. Center for Innovation in Teaching &amp; Learning (CITL) restrictions and assessments apply, see <a href="http://online.illinois.edu">http://online.illinois.edu</a>. This section is restricted to Engineering online graduate degree-seeking students only. Non-degree students please register for MATH 461 M16 section</td>
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