Class Schedule - Spring 2019

**Mechanical Engineering**

**ME 498  Special Topics**  credit: 0 TO 4 hours.

Subject offerings of new and developing areas of knowledge in mechanical engineering intended to augment the existing curriculum. See Class Schedule or departmental course information for topics and prerequisites. 0 to 4 undergraduate hours. 0 to 4 graduate hours. May be repeated in the same or separate terms if topics vary to a maximum of 9 hours.

<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>69499</td>
<td>Laboratory</td>
<td>ABA</td>
<td>03:00 PM - 04:50 PM</td>
<td>M</td>
<td>3073 - Electrical &amp; Computer Eng Bldg</td>
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<td>69500</td>
<td>Laboratory</td>
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<td>08:00 AM - 09:50 AM</td>
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<td>3073 - Electrical &amp; Computer Eng Bldg</td>
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<td>69501</td>
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<td>69504</td>
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<td>ABG</td>
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### Credit Hours: 4 hours

**Signal Processing**

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<th>Time</th>
<th>Days</th>
<th>Building</th>
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<tr>
<td>69507</td>
<td>Laboratory</td>
<td>ABI</td>
<td>04:00 PM - 05:50 PM</td>
<td>R</td>
<td>3073 - Electrical &amp; Computer Eng Bldg</td>
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**Credit Hours: 3 hours**

**Bio-Inspired Design**

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<th>Time</th>
<th>Days</th>
<th>Building</th>
<th>Instructors</th>
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<td>65802</td>
<td>Lecture</td>
<td>AW3</td>
<td>03:00 PM - 03:50 PM</td>
<td>MWF</td>
<td>305 - Materials Science &amp; Eng Bld</td>
<td>Alleyne, M Wissa, A</td>
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**Credit Hours: 4 hours**

**Bio-Inspired Design**


Restricted to Graduate - Urbana-Champaign.

ME 498 meets with IB496. These courses offer a unique interdisciplinary advanced design experience in the field of bioinspiration. During the course we will cover four focus areas: locomotion, sensing, materials, and complex systems. For each topic, we will discuss the state of the art on engineering side and the solutions in nature that can augment the current engineering systems. By the end of the course you should be able to work in interdisciplinary teams, use analogical design concepts, and produce a prototype based on a biological function to solve an engineering challenge in one of the four focus areas.
### Comp modeling & optimization

Computational Optimization for Biological and Engineering Systems. This course provides a hands-on introduction to modern computational modeling and simulations techniques applied to the understanding of biophysical and engineering problems. From moving bodies in fluids and bio-hybrid robots, to unconventional 'birds-nest' materials and propulsion on sandy dunes, you will learn to model biophysical phenomena and implement software able to capture their essential behavior. Moreover, you will learn to employ evolutionary optimization algorithms in combination with the developed models, to inverse design more performant solutions. This course requires some basic Matlab or Python or C/C++ coding skills.

#### 52400 Discussion/Recitation

| 52400 | Discussion/Recitation | TEX | ARRANGED - | - | Saif, M Smith, K |

Credit Hours: 4 hours
Departmental Approval Required
Corporate Internship - required for Tsinghua 3+2 program. Registration is restricted to students in the Tsinghua 3+2 program. Students are required to obtain a registration override from the MechSE Undergraduate Office, Rm 154 Mechanical Engineering Bldg.

#### 52399 Discussion/Recitation

| 52399 | Discussion/Recitation | TSE | ARRANGED - | - | Saif, M Smith, K |

Credit Hours: 4 hours
Departmental Approval Required
Corporate Internship - required for Tsinghua 3+2 program. Registration is restricted to students in the Tsinghua 3+2 program. Students are required to obtain a registration override from the MechSE Undergraduate Office, Rm 154 Mechanical Engineering Bldg.