Bioengineering

BIOE 420  **Intro Bio Control Systems**  credit: 3 hours.

Systems engineering approach to modeling physiological systems to examine natural biological control systems, homeostasis, and control through eternal medical devices. Introduces open loop and closed loop feedback control; Laplace and Fourier analysis of system behavior; impulse and steady state responses; physiological modeling and system identification; and stability. Includes biological systems for endocrine function, muscle position, neuronal circuits, and cardiovascular function. Mathematical modeling, Matlab and Simulink simulation, and physiological measurements to relate control systems to maintenance of internal environment. 3 undergraduate hours. No graduate credit. Credit is not given for BIOE 420 if credit for AE 353, ECE 486, SE 320, or ME 340 has been earned. Prerequisites: BIOE 205, BIOE 302, BIOE 303, BIOE 414, BIOE 415.

Departmental approval required for non-majors.

<table>
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<th>CRN</th>
<th>Type</th>
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<th>Time</th>
<th>Days</th>
<th>Location</th>
<th>Instructor</th>
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<tr>
<td>65299</td>
<td>Lecture</td>
<td>AL1</td>
<td>11:00 AM - 11:50 AM</td>
<td>MWF</td>
<td>1302 - Everitt Laboratory</td>
<td>Sutton, B</td>
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Restricted to BS:Bioengineering - UIUC.