Class Schedule - Spring 2012

Physics

PHYS 498  **Special Topics in Physics**  credit: 1 TO 4 hours.
Subject offerings of new and developing areas of knowledge in physics intended to augment the existing curriculum. See Class Schedule or departmental course information for topics and prerequisites. May be repeated in the same or separate terms if topics vary.

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<th>CRN</th>
<th>Type</th>
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<tr>
<td>36765</td>
<td>Lecture</td>
<td>BIO</td>
<td>10:30 AM - 11:50 AM</td>
<td>MW</td>
<td>322 - Loomis Laboratory</td>
<td>Selvin, P</td>
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Credit Hours: 3 hours
Intro to Biological Physics
INTRODUCTION TO BIOLOGICAL PHYSICS. We will apply simple yet powerful ideas of physics to gain some understanding of biology. (What is the inertia of a bacteria and how does this affect its behavior?) We will begin with atoms, move to molecules, then macromolecules, then cells, and finally whole systems. For example, how do we see? The answer: photons cause the release of chemicals that create electricity. How do we move? The answer: tiny biomolecular motors break chemical bonds, using the energy to create force and motion with efficiencies that put man-made machines to shame. These motors, and indeed, much of biology at the molecular level, operate at the nanometer (one-billionth of a meter) and picoNewton (1 trillionth of a pound) scales. How can we measure such tiny things? Come find out! Prerequisite: PHYS 211-212-213 sequence or consent of instructor. No prior biology knowledge or prerequisites, since the course includes a molecular biology primer.

| 49741 | Lecture | BIP    | 10:30 AM - 11:50 AM | MW   | 322 - Loomis Laboratory | Selvin, P  |

Credit Hours: 4 hours
Intro to Biological Physics
Restricted to Graduate - Urbana-Champaign.
Meets with PHYS 498BIO (36765). Graduate students only, for 4 hours credit. (Undergraduates should enroll in 36765 for 3 hours credit.)