Class Schedule - Spring 2007

Computer Science

CS 598  **Special Topics in CS**  credit: 2 TO 4 hours.
Lecture course in topics of current interest. See Schedule for current topics. May be repeated. Prerequisite: As specified for each topic offering, see Schedule or departmental course description.

<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>31662</td>
<td>Lecture-Discussion</td>
<td>EA</td>
<td>11:00 AM - 12:15 PM</td>
<td>WF</td>
<td>1111 - Siebel Center for Comp Sci</td>
<td>Amir, E</td>
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<tr>
<td>46428</td>
<td>Lecture-Discussion</td>
<td>LRS</td>
<td>02:00 PM - 03:15 PM</td>
<td>WF</td>
<td>1302 - Siebel Center for Comp Sci</td>
<td>Sha, L</td>
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<tr>
<td>31665</td>
<td>Lecture-Discussion</td>
<td>REJ</td>
<td>03:00 PM - 04:45 PM</td>
<td>TR</td>
<td>1302 - Siebel Center for Comp Sci</td>
<td>Johnson, R</td>
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<tr>
<td>43771</td>
<td>Lecture-Discussion</td>
<td>RHK</td>
<td>02:00 PM - 03:15 PM</td>
<td>TR</td>
<td>1304 - Siebel Center for Comp Sci</td>
<td>Kravets, R</td>
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</tbody>
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Credit Hours: 4 hours
Topic: Decision-Making Under Uncertainty. Prerequisite: CS 440 or consent of Instructor. Additional information at: http://reason.cs.uiuc.edu/eyal/classes/sp06/cs598ea/

Credit Hours: 4 hours
Topic: Improving Your Research Skills. Prerequisite: Author or co-author of at least one research paper or approval from instructor. This class aims at improving graduate students' research skills including: 1) how to formulate high impact research problems; 2) how to create a research agenda and carry it out; and 3) how to give presentations and write papers. For an overview, see Elements of Research (http://www-rtsl.cs.uiuc.edu/misc/research.pdf). The study will be conducted in the context of research on building robust software systems.

Credit Hours: 4 hours
Topic: Object-Oriented Programming and Design. Learn object-oriented design by studying examples from Squeak, many of which have been polished for 25 years. Learn about design patterns, how to use frameworks and how to design them, and reflection. Prerequisite: Graduate standing or Consent of Instructor.

Credit Hours: 4 hours
Topic: Advanced Topics in Network Protocols, Architectures and Applications. Prerequisite: CS 438 or equivalent is required; CS 423 or equivalent is recommended.

Credit Hours: 4 hours
Topic: Probabilistic Methods for Biological Sequence Analysis. This is an advanced topics course in bioinformatics. We will discuss (i) probabilistic techniques such as Expectation-Maximization, Hidden Markov Models, Bayesian inference, Monte carlo sampling (ii) computational assessment of sequence statistics (such as alignment scores and word frequencies), (iii) mathematical models of evolution and their use in sequence analysis, among other topics. Computational techniques will be discussed in the context of the important biological process of gene regulation, and problems such as "sequence alignment", "motif finding", and "module detection", will be studied in detail. NO BACKGROUND IN BIOLOGY IS REQUIRED: biological concepts used will be introduced early in the course. The course will involve a research project. Prerequisites: Programming, basic probability and statistics.
Credit Hours: 4 hours

Topic: Hot Topics in Virtualization and Security

This class focuses on two main themes: Virtualization and Security, as well as the intersection of the two. We will discuss classic papers in the areas as well as cutting-edge research. We will explore new ideas through projects and improve skills in presentations, critical thinking, systems and security programming, and creativity. The class format will consist of lectures, student presentations, guest lectures, and class project presentations. The prerequisite for this class is undergraduate operating systems, and some background in systems security is preferred, but not required. Some of the topics we will explore are: virtualization fundamentals, using virtual machines for system administration and debugging, using virtual machines for security, honeypots and intrusion analysis, malware and attacks, hardware security and trusted computing, OS and application security, and electronic voting.