## Computer Science

### CS 498  **Special Topics**  credit: 0 TO 4 hours.

Subject offerings of new and developing areas of knowledge in computer science 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.

<table>
<thead>
<tr>
<th>CRN</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Days</th>
<th>Location</th>
<th>Instructor</th>
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</thead>
<tbody>
<tr>
<td>47232</td>
<td>Laboratory</td>
<td>AB</td>
<td>ARRANGED -</td>
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<td>Hwu, W</td>
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<tr>
<td>47231</td>
<td>Lecture</td>
<td>AL</td>
<td>09:30 AM - 10:50 AM</td>
<td>TR</td>
<td>1105 - Siebel Center for Comp Sci</td>
<td>Hwu, W</td>
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Credit Hours: 4 hours  
Topic: Programming Massively Parallel Microprocessors. Prerequisites: ECE 411 or CS 225 and CS 433. This course introduces the student to parallel programming, for processors with many computation cores (typically graphical processing units (GPUs)). Topics include exploitation of parallelism, programming models, hardware organizations, mapping computations to parallel hardware, efficient data structures, paradigms for efficient parallel algorithms. Six lab assignments and one final project reinforce and supplement the lecture and reading materials. This section meets with ECE 498, AL.

| 43755   | Lecture    | DM3     | 02:00 PM - 03:15 PM| TR   | 1302 - Siebel Center for Comp Sci    | Marinov, D |

Credit Hours: 3 hours  
Topic: Software Testing. This course will provide an introduction to systematic and organized approaches to software testing. Topics to be covered include testing process, coverage criteria, automatic and manual generation of test inputs, execution of tests, and validation of test outputs. This section is for undergraduate OR graduate students.

| 48196   | Lecture    | DM4     | 02:00 PM - 03:15 PM| TR   | 1302 - Siebel Center for Comp Sci    | Marinov, D |

Credit Hours: 4 hours  
Restricted to Graduate - Urbana-Champaign.  
Topic: Software Testing. This course will provide an introduction to systematic and organized approaches to software testing. Topics to be covered include testing process, coverage criteria, automatic and manual generation of test inputs, execution of tests, and validation of test outputs. This section is for graduate students only.

| 41438   | Lecture    | GG      | 12:30 PM - 01:45 PM| WF   | 106B3 - Engineering Hall             | Garnett, G |

Credit Hours: 3 hours  
Restricted to Computer Science or Statistics & Computer Science or Math & Computer Science major(s).  
Topic - Game Design: Creating Virtual Worlds. Prerequisite: CS 242 In this course, you will learn principles of game design, game theory and current video game technologies related to multiplayer games and virtual worlds. Topics will include theory of games, story crafting, game engines, graphics, physics simulations, AI simulation, world design, play testing, multi-player interaction models, user interface design. You will apply theoretical concepts taught during lectures to a semester-long video game design project of your choosing. Meets with INFO 490 GG and MUSIC 404 C.
### 39659 Lecture KK3 12:30 PM - 01:45 PM TR 1304 - Siebel Center for Comp Sci Karahalios, K

**Credit Hours:** 3 hours  
**Topic:** Social Computing and Visualization. Social Visualization - visualization of social data for social purposes. By social data we mean the traces that people leave as they go about their daily routine. These data may come from different sources such as the online world (i.e. email, IM logs, blogs, etc.) and the physical world (i.e. captured through sensors such as voice by microphone, movement and location data by camera, gps, ubisense device, etc.) Visualizations of these kinds of data can be used for increasing awareness of one's social environment and for highlighting cues and patterns implicit in communication. This class explores visualizing social interaction in networked spaces. We emphasize visualizing the network identity of the person over compilations of online data that characterize information visualization. This section is for undergraduate or graduate students.

### 51263 Lecture KK4 12:30 PM - 01:45 PM TR 1304 - Siebel Center for Comp Sci Karahalios, K

**Credit Hours:** 4 hours  
**Restricted to Graduate - Urbana-Champaign.**  
**Topic:** Social Computing and Visualization. Social Visualization - visualization of social data for social purposes. By social data we mean the traces that people leave as they go about their daily routine. These data may come from different sources such as the online world (i.e. email, IM logs, blogs, etc.) and the physical world (i.e. captured through sensors such as voice by microphone, movement and location data by camera, gps, ubisense device, etc.) Visualizations of these kinds of data can be used for increasing awareness of one's social environment and for highlighting cues and patterns implicit in communication. This class explores visualizing social interaction in networked spaces. We emphasize visualizing the network identity of the person over compilations of online data that characterize information visualization. This section is for graduate students only.

### 50445 Lecture-Discussion LA ARRANGED - ARR - Siebel Center for Comp Sci Angrave, L

**Credit Hours:** 3 hours  
**Restricted to Undergrad - Urbana-Champaign.**  
**Topic:** Undergraduate Research Laboratory In this apprenticeship-style, hands-on laboratory, students learn to i) Pose testable research questions; ii) Write competitive grant proposals; iii) Create novel solutions using software and/or hardware; iv) Draw valid scientific conclusions; and v) Present and publish results, conclusions and other materials. This team-based course is for undergraduate students only.