# Class Schedule - Spring 2010

## 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>
</tr>
</thead>
<tbody>
<tr>
<td>47232</td>
<td>Laboratory</td>
<td>AB</td>
<td>ARRANGED -</td>
<td>-</td>
<td>-</td>
<td>Patel, S</td>
</tr>
<tr>
<td>47231</td>
<td>Lecture</td>
<td>AL</td>
<td>09:30 AM - 10:50 AM</td>
<td>TR</td>
<td>1302 - Siebel Center for Comp Sci</td>
<td>Patel, S</td>
</tr>
<tr>
<td>41438</td>
<td>Lecture</td>
<td>GG</td>
<td>12:30 PM - 01:45 PM</td>
<td>TR</td>
<td>1105 - Siebel Center for Comp Sci</td>
<td>Garnett, G</td>
</tr>
<tr>
<td>50445</td>
<td>Lecture-Discussion</td>
<td>LA</td>
<td>ARRANGED -</td>
<td>ARR</td>
<td>ARR - Siebel Center for Comp Sci</td>
<td>Angrave, L</td>
</tr>
<tr>
<td>52301</td>
<td>Lecture</td>
<td>MG3</td>
<td>11:00 AM - 12:15 PM</td>
<td>WF</td>
<td>1103 - Siebel Center for Comp Sci</td>
<td>Garzaran, M</td>
</tr>
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</table>

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.

Credit Hours: 3 hours  
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.

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.

Credit Hours: 3 hours  
Topic: Program Optimization. Prerequisite: CS 225 and CS 232. The focus of this course is the study of techniques for the implementation of efficient computations in terms of time and power consumption. Specific topics include: performance monitoring tools and techniques, program analysis and transformations for performance improvement, locality enhancement, multi-core processing, programming multimedia extensions, algorithm selection, and autotuning. This section is for undergraduate or graduate students.
### 52302
**Lecture**  
MG4  
**Time:** 11:00 AM - 12:15 PM  
**WF**  
**Location:** 1103 - Siebel Center for Comp Sci  
**Instructor:** Garzaran, M

**Credit Hours:** 4 hours  
**Restriction:** Graduate - Urbana-Champaign  
**Topic:** Program Optimization. Prerequisite: CS 225 and CS 232. The focus of this course is the study of techniques for the implementation of efficient computations in terms of time and power consumption. Specific topics include: performance monitoring tools and techniques, program analysis and transformations for performance improvement, locality enhancement, multi-core processing, programming multimedia extensions, algorithm selection, and autotuning. This section is for graduate students only.

### 50232
**Lecture**  
SL3  
**Time:** 11:00 AM - 12:15 PM  
**WF**  
**Location:** 1131 - Siebel Center for Comp Sci  
**Instructor:** Lavalle, S

**Credit Hours:** 3 hours  
**Topic:** Planning Algorithms. Prerequisite: CS 473 or consent of instructor. This course provides an introduction to planning algorithms for both discrete and continuous spaces. Issues related to robotics, sensing, motion planning, and control theory will be addressed. A combination of theoretical and implementation issues will be considered. This section is for undergraduate or graduate students.

### 50234
**Lecture**  
SL4  
**Time:** 11:00 AM - 12:15 PM  
**WF**  
**Location:** 1131 - Siebel Center for Comp Sci  
**Instructor:** Lavalle, S

**Credit Hours:** 4 hours  
**Restriction:** Graduate - Urbana-Champaign  
**Topic:** Planning Algorithms. Prerequisite: CS 473 or consent of instructor. This course provides an introduction to planning algorithms for both discrete and continuous spaces. Issues related to robotics, sensing, motion planning, and control theory will be addressed. A combination of theoretical and implementation issues will be considered. This section is for graduate students only.