### Electrical and Computer Engineering

**ECE 498  Special Topics in ECE  credit: 0 TO 4 hours.**

Subject offerings of new and developing areas of knowledge in electrical and computer engineering intended to augment the existing curriculum. See Class Schedule or departmental course information for topics and prerequisites. 0 to 4 undergraduate hours. 0 to 4 graduate hours. 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>61466</td>
<td>Lecture</td>
<td>RC3</td>
<td>03:00 PM - 04:20 PM</td>
<td>MW</td>
<td>2015 - Electrical &amp; Computer Eng Bldg</td>
<td>Roy Choudhury, R</td>
</tr>
</tbody>
</table>

**Credit Hours: 3 hours**

Smartphone Computing & Appl.
Not intended for Graduate - Urbana-Champaign.
Prerequisites: One of ECE391, ECE241, or CS225, or consent of instructor. This course will introduce cross-disciplinary ideas, techniques, and algorithms in mobile computing, with an emphasis on how they can be composed to build systems and applications. Topics of interest include multi-modal sensing, energy efficiency, localization, context-awareness, gesture recognition, CPU-offloading, and data analytics. As an example, students will consider problems in indoor navigation, understand how “signal correlation” may be an effective technique to solve the problem, and later utilize the same technique for a different application, say health monitoring. The course will end with a discussion of the longer-term challenges in mobile computing, and how techniques from different disciplines may need to come together to eventually solve them.

| 61467 | Lecture | RC4     | 03:00 PM - 04:20 PM | MW   | 2015 - Electrical & Computer Eng Bldg | Roy Choudhury, R  |

**Credit Hours: 4 hours**

Smartphone Computing & Appl.
Restricted to Graduate - Urbana-Champaign.
Prerequisites: One of ECE391, ECE241, or CS225, or consent of instructor. This course will introduce cross-disciplinary ideas, techniques, and algorithms in mobile computing, with an emphasis on how they can be composed to build systems and applications. Topics of interest include multi-modal sensing, energy efficiency, localization, context-awareness, gesture recognition, CPU-offloading, and data analytics. As an example, students will consider problems in indoor navigation, understand how “signal correlation” may be an effective technique to solve the problem, and later utilize the same technique for a different application, say health monitoring. The course will end with a discussion of the longer-term challenges in mobile computing, and how techniques from different disciplines may need to come together to eventually solve them.

| 66459 | Lecture | YL3     | 02:00 PM - 03:20 PM | MW   | 3013 - Electrical & Computer Eng Bldg | Lu, Y             |

**Credit Hours: 3 hours**

Networking for Big Data
Not intended for Graduate - Urbana-Champaign.
Prerequisites: An undergraduate course in probability at the level of ECE 313. Programming in matlab and C. Design of networking architectures and algorithms, specifically aimed at data centers. Topics include load balancing, traffic engineering and virtual machine placement.

| 66460 | Lecture | YL4     | 02:00 PM - 03:20 PM | MW   | 3013 - Electrical & Computer Eng Bldg | Lu, Y             |
Prerequisites: An undergraduate course in probability at the level of ECE 313. Programming in matlab and C. Design of networking architectures and algorithms, specifically aimed at data centers. Topics include load balancing, traffic engineering and virtual machine placement. This section will require a course project.