## Computer Engineering – Software Systems for Ubiquitous Computing (Option B)

**September 2018** (students who entered first year in September 2016 or September 2017)

### Year 2:

#### Term A
- AM 2270a  Applied Mathematical Methods
- CS 1037a  Computer Science Fundamentals II
- ECE 2205a  Electric Circuits I
- ECE 2277a  Digital Logic Systems
- Math 2151a  Discrete Structures for Engineering
- SE 2203a  Software Design

#### Term B
- AM 2276b  Applied Mathematical Methods
- ECE 3375b  Microprocessors and Microcomputers
- ECE 3380b  Advanced Digital Systems
- MSE 2233b  Circuits and Systems
- SE 2205b  Algorithms and Data Structures for Object-Oriented Des.
- SS 2143b  Applied Statistics and Data Analysis for Engineers

### Year 3:

#### Term A
- ECE 3330a  Control Systems
- ECE 3395a  Computer System Design
- ECE 4436a  Networking: Principles, Protocols, and Architecture
- SE 3313a  Operating Systems for Software Engineering
- SE 3316a  Web Technologies
- SE 3352a  Software Requirements and Analysis

#### Term B
- ECE 3331b  Introduction to Signal Processing
- ECE 3390b  Hardware/Software Co-Design
- ECE 4460b  Real-Time and Embedded Systems
- SE 3314b  Design and Implementation of Computer Networks
- SE 3353b  Human-Computer Interface Design
- Writing 2130G  Building Better (Communication) Bridges: Rhetoric & Professional Communication for Engineers

### Year 4:

#### Term A
- ECE 4415  Computer Engineering Design Project
- ECE 4437a  Communications Theory
- SE 4452a  Software Verification and Validation

0.5 non-technical elective taken from the approved list
Two 0.5 technical electives

#### Term B
- ECE 4415  Computer Engineering Design Project
- ES 4498G  Engineering Ethics, Sustainable Development and the Law
- SE 4455b  Cloud Computing: Concepts, Technologies and Applications

One 0.5 technical elective
1.0 non-technical electives taken from the approved list

### NOTES:

**Non-technical electives:**
Please choose 1.0 credits (one 1.0 credit or two 0.5 credit) courses from the 1000 level and one 0.5 credit from the 2000+ level.

### Technical Elective List:

Some technical electives may not be offered in a given academic year. Consult the department for accurate listing.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ECE 4429a/b</td>
<td>Advanced Digital Signal Processing</td>
</tr>
<tr>
<td>ECE 4438a/b</td>
<td>Advanced Image Processing and Analysis</td>
</tr>
<tr>
<td>ECE 4445a/b</td>
<td>Introduction to Digital Image Processing</td>
</tr>
<tr>
<td>ECE 4455a/b</td>
<td>Biomedical Systems Analysis</td>
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<tr>
<td>ECE 4469a/b</td>
<td>Applied Control Systems</td>
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<tr>
<td>SE 3309a/b</td>
<td>Database Management Systems</td>
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<tr>
<td>SE 3310a/b</td>
<td>Theoretical Foundations of Software Engineering</td>
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<tr>
<td>SE 3351a/b</td>
<td>Software Project and Process Management</td>
</tr>
<tr>
<td>SE 4472a/b</td>
<td>Information Security</td>
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