

### 4-Year Course Plan with Study Abroad for Computer Science & Engineering under Core 2009

| Freshman                                      | Fall   | Winter   | Spring                    |
|---|--|--|---------------------------|
|   | University Core<br>(Critical Thinking & Writing 1) | University Core<br>(Critical Thinking & Writing 2) | COEN 19 - Discrete Math   |
|   | MATH 11 - Calculus I                               | MATH 12 - Calculus II                              | MATH 13 - Calculus III    |
|   | CHEM 11 - Chemistry I                              | PHYS 31 - Physics I                                | PHYS 32 - Physics II      |
|   | COEN 10 - Introduction to Programming <sup>1</sup> | COEN 11 - Advanced Programming                     | COEN 12 - Data Structures |
| ENGR 1 - Introduction to Engineering (1 unit) |  |  |                           |

| Sophomore              | Fall                                    | Winter                                  | Spring  |
|------------------------|---|---|---|
|                        | University Core<br>(Cultures & Ideas 1) | University Core<br>(Cultures & Ideas 2) | University Core<br>(Religion, Theology & Culture 1) |
|                        | MATH 14 - Calculus IV                   | AMTH 106 - Differential Equations       | MATH 53 - Linear Algebra                            |
|                        | PHYS 33 - Physics III                   | AMTH 108 - Probability and Statistics   | ELEN 50 - Electric Circuits                         |
| COEN 21 - Logic Design | COEN 70 - Advanced Data Structures      | COEN 20 - Embedded Systems              |   |

| Junior                        | Fall                              | Winter                         | Spring                       |
|-------------------------------|-----------------------------------|--------------------------------|------------------------------|
|                               | Study Abroad<br>(8 units minimum) | University Core                | University Core              |
|                               |                                   | ELEN 115 - Electronic Circuits | ELEN 153 - Digital IC Design |
|                               |                                   | COEN 146 - Networks            | COEN 179 - Algorithms        |
| Computer Engineering Elective |                                   | Computer Engineering Elective  |                              |

| Senior                                   | Fall                                 | Winter                                   | Spring                                 |
|--|--------------------------------------|--|--|
|  | University Core                      | University Core                          | University Core                        |
|  | COEN 177 - Operating Systems         | Computer Engineering Elective            | Free Elective                          |
|  | COEN 174 - Software Engineering      | COEN 175 - Compilers                     | COEN 122 - Computer Architecture       |
|  | COEN 194 - Senior Design I (2 units) | COEN 195 - Senior Design II (2 units)    | COEN 196 - Senior Design III (2 units) |
| ENGL 181 - Technical Writing I (2 units) |                                      | ENGL 182 - Technical Writing II (1 unit) |  |

Humanities & Social Science
  Math & Science
  Engineering
  Other

<sup>1</sup>Students with previous programming experience, as determined by advanced placement credit or the department's programming diagnostic exam, may replace COEN 10 with a free elective. Such students should take a University Core course instead of COEN 10 in their freshman year.