

**4-Year Course Plan with Study Abroad for
Computer Science & Engineering under Core 2009
(For Students Beginning Fall 2012)**

| Freshman | Fall | Winter | Spring |
|---|---|--|---------------------------|
| | University Core (Critical Thinking & Writing 1) | University Core (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 ¹ | COEN 11 - Advanced Programming | COEN 12 - Data Structures |
| ENGR 1 - Introduction to Engineering (2 units) | | | |

| Sophomore | Fall | Winter | Spring |
|------------------------|---|--|---|
| | University Core (Cultures & Ideas 1) | University Core (Cultures & Ideas 2) | University Core (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 (8 units minimum) | University Core | University Core |
| | | COEN 171 - Programming Languages | 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 - Applied Engr. Communications I (2 units) | ENGL 182A - Applied Engr. Communications IIA (1 unit) | ENGL 182B - Applied Engr. Communications IIB (1 unit) | |

Humanities & Social Science
 Math & Science
 Engineering
 Other

¹Students 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.