

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

	Fall	Winter	Spring
Freshman	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	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	University Core	University Core	Co-op Experience: 6 months (Spring and Summer)
	Free Elective	COEN 171 - Programming Languages	
	COEN 177 - Operating Systems	COEN 146 - Networks	
	Computer Engineering Elective	Computer Engineering Elective	
Senior	University Core	University Core	ELEN 153 - Digital IC Design
	University Core	Computer Engineering Elective	COEN 179 - Algorithms
	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.