

**COMPUTER SCIENCE MAJOR (SAMPLE) FOUR-YEAR PLAN  
2004-2005**

**Freshman Year**

First Semester

ENG 111 College Composition (MPF I)	3
MTH 151 or 153 Calculus I (MPF V) & (MPT MTH2)*	4-5
EAS 101 Computing, Engineering & Society	1
CSA 174 Fund. of Programming & Problem Solving	3
Miami Plan Fine Arts Course (MPF IIA)	3
Miami Plan World Cultures Course (MPF IIIB)+	<u>3</u>
	17-18

Second Semester

ENG 112 Composition and Literature (MPF I)	3
MTH 251 Calculus II	4
CSA 271 Object-Oriented Programming	3
MTH 231 Discrete Math (MPT MTH2)*	3
Miami Plan Science Course (MPF IVA or IVB)	<u>3</u>
	16

**Sophomore Year**

First Semester

ECO 201 or 202 Prin of Micro/Macroeconomics (MPF IIC)	3
CSA 274 Data Abstraction and Data Structures	3
Miami Plan Foundation II Elective	3
Miami Plan Science (MPF IVA or IVB)	4-5
Additional MP Fine Arts, Humanities or Social Science	<u>3</u>
	16-17

Second Semester

CSA 283 Data Communications & Networking	3
CSA 278 Computer Architecture	3
CSA 385 Database Systems	3
Miami Plan U.S. Cultures Course (MPF IIIA or 111B)	3
Miami Plan Science (MPF IVA or IVB)	<u>4-5</u>
	16-17

**Junior Year**

First Semester

CSA 381 Operating Systems	3
CSA 464 Algorithms	3
COM 135 Public Express/Critical Inquiry (MPF IIB)	3
STA 301 Applied Statistics (MPT MTH2)*	3
Free Electives	<u>3</u>
	15

Second Semester

ENG 313 Technical Writing	3
CSA 361 Societal, Ethical, and Prof. Issues in CS	3
Computer Science Electives (CS)	6-9
STA 401 Probability	<u>3</u>
	15-18

**Senior Year**

First Semester

CSA 472 Software Engineering	3
CSA 486 Artificial Intelligence	3
Computer Science Electives (CS)	3
Free Electives	<u>6-8</u>
	15-17

Second Semester

CSA 475 Software Systems Project (MPC)	3
Computer Science Elective (CS)	3-6
Free Electives	<u>3-6</u>
	9-15

**128 Hours required for degree**

+The School of Engineering & Applied Science and its Advisory Council suggest you consider taking IDS 159, Strength Through Cultural Diversity, to meet the World Cultures (MPF IIIB) requirement and the non-dominant (ND) perspective.

The Miami Plan for Liberal Education Foundation (MPF) requirement includes 6 hours of English Composition (ENG 111-112 fulfills this requirement); 9 hours in Fine Arts and Humanities with a minimum of 3 hours in Fine Arts and 6 hours in Humanities (COM 135 fulfills 3 hrs of humanities); 9 hours in Social Science and World Cultures with a minimum of 3 hours in Social Science and 3 hours in World Cultures (ECO 201 fulfills 3 hours of Social Science); 9 hours of Natural Science, including one laboratory course with a minimum of 3 hours in Biological Science and 3 hours in Physical Science; 3 hours of Mathematics, Formal Reasoning or Technology (MTH 151 fulfills this requirement). At least one of these foundation courses must provide a historical perspective (H) and at least one must provide a perspective different from that of the dominant cultural heritage (ND) of the United States (typically fulfilled with selected Fine Arts, Humanities, Social Science, or World Cultures courses). Foundation courses ordinarily are taken in your first two years. The actual order in which you take these courses is up to you. The outline above is just one sample of how the courses might be arranged. You also must complete 12 hours of Focus: Advanced Liberal Learning courses, including 9 hours of an approved Thematic Sequence (MPT)\* and a 3 hour Senior Capstone Experience (MPC) (CSA 475 fulfills the capstone requirement).

\* The thematic sequence MTH2-Basic Mathematical Tools for Science is fulfilled by CSA requirements (MTH 151 or 153, MTH 231, and STA 301); the form to "declare" a thematic sequence must be submitted through the department offering the sequence.

**COMPUTER SCIENCE (CS) ELECTIVES** (choose 5 – 3 at 300-level or higher)

CSA 285 Client Server Systems  
 CSA 287 Digital System Design  
 CSA 372 Analysis of Stochastic Systems  
 CSA 386 Introduction to Computer Graphics  
 CSA 465 Comparative Programming languages

CSA 467 Computer & Network Security  
 CSA 471 Simulation  
 CSA 473 Automata, Formal Languages, and Computability  
 CSA 474 Compiler Design  
 CSA485 Advanced Database Systems