

**SYSTEMS ANALYSIS (SAMPLE) FOUR-YEAR PLAN**  
**COMPUTER SCIENCE & SYSTEMS ANALYSIS DEPARTMENT**  
**SCHOOL OF ENGINEERING & APPLIED SCIENCE - MIAMI UNIVERSITY**  
**2003-2004**

**Freshman Year**

First Semester

ENG 111	College Composition (MPF I)	3
MTH 151 or 153	Calculus I (MPF V) & (MPT MTH2)*	4-5
CSA 171	Intro to Comp. Sci. & Sys. Anal.	1
CSA 174	Fund. of Programming & Problem Solving	3
Miami Plan Fine Arts Course (MPF IIA)		3
Miami Plan World Cultures Course (MPF IIIB)+		3
		<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 Biological Science Course (MPF IVA)		<u>3</u>
		16

**Sophomore Year**

First Semester

ECO 201	Prin of Microeconomics (MPF IIC)	3
CSA 274	Data Abstraction and Data Structures	3
STA 301	Applied Statistics (MPT MTH2)*	3
Miami Plan Foundation II Elective		3
Miami Plan Physical Science (MPF IVB)		3
		<u>3</u>
		15

Second Semester

CSA 273	Analysis of Deterministic Systems	3
CSA 278	Computer Architecture	3
STA 401	Probability	3
COM 135	Public Express/Critical Inquiry (MPF IIB)	3
Miami Plan Physical Science (MPF IVB)		3
Free Elective		<u>3</u>
		18

**Junior Year**

First Semester

CSA 283	Data Communications & Networks	3
CSA 385	Database Systems	3
CSA 372	Analysis of Stochastic Systems	3
Special Interest area**		3
Free Elective		<u>3</u>
		15

Second Semester

ENG 313	Technical Writing	3
Systems Analysis Elective (SA)		6
Miami Plan US Cultures Course (MPF IIIB)		3
Special Interest area**		<u>3</u>
		15

**Senior Year**

First Semester

CSA 472	Software Engineering	3
CSA 471	Simulation	3
Systems Analysis Electives (SA)		3
Special Interest area**		3
Free Elective		<u>3</u>
		15

Second Semester

CSA 475	Software Systems Project (MPC)	3
Systems Analysis Elective (SA)		3
Special Interest area**		3
Free Elective		<u>7-8</u>
		16-17

**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 (CSA Science requirement fulfills 6 hours of Physical Science; however you still need to fulfill 3 hours of biological 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).

\*\* This requirement allows you to choose courses in an interest area outside your major. Some examples of special interest areas include accountancy, general business, mathematics, psychology, engineering, and music.

**SYSTEMS ANALYSIS (SA) ELECTIVES** (choose 4)

CSA 275 Data Processing and File Design	CSA 473 Automata, Formal Languages, and Computability
CSA 381 Operating Systems	CSA 474 Compiler Design
CSA 285 Client Server Systems	CSA 482 Analysis of Inventory Systems
CSA 371 Linear and Non-Linear Programming Models	CSA 483 Analysis of Forecasting Systems
CSA 386 Introduction to Computer Graphics	CSA 484 Analysis of Manufacturing Systems
CSA 464 Algorithms	CSA 485 Advanced Database Systems
CSA 465 Comparative Programming Languages	CSA 486 Introduction to Artificial Intelligence