SAMPLE CURRICULUM -- DOUBLE MAJOR
MANUFACTURING ENGINEERING and MECHANICAL ENGINEERING
SCHOOL OF ENGINEERING & APPLIED SCIENCE - MIAMI UNIVERESITY
2007-2008

Freshman Year

First Semester		*Second Semester*		*Summer*
EAS 101 Computing, Engineering & Society	1	EAS 102 Problem Solving & Design	3	
ENG 111 College Composition (MPF I)	3	ENG 112 Composition and Literature (MPF I)	3	
MTH 151 Calculus I (MPF V)	5	MTH 251 Calculus II	4	
PHY 181 The Physical World (MPF IVB)	4	PHY 182 The Physical World (MPF IVB)	4	
PHY 183 The Physical World Lab (MPF IVB)	1	PHY 184 The Physical World Lab (MPF IVB)	1	
Miami Plan World Cultures Course (MPF IIIB)+	3	Miami Plan Fine Arts Course (MPF IIA)	3	
	17		18	

Sophomore Year

First Semester		*Second Semester*		*Summer*	
CHM 141 College Chemistry (MPF IVB)	3	MME/PCE 341 Engineering Economics	3	Miami Plan Humanities Course (MPF IIB)	3
CHM 144 College Chemistry Lab (MPF IVB)	2	STA 368 Introduction to Statistics	4	Miami Plan U.S. Cultures Course (MPF IIIA)	3
ECO 201 Principles of Microeconomics (MPF IIC)	3	Miami Plan Fine Arts, Humanities, or Social	3		
MTH 245 Differential Equations for Engineers	3	Science Course (MPF IIA,B, or C)			
Choose two of the following:		***Choose two of the following:***			
MME 213 Computational Methods in Engineering	3	MME 213 Computational Methods in Engineering	3		
MME 211 Static Modeling of Mechanical Systems	3	MME 211 Static Modeling of Mechanical Systems	3		
MME 223 Engineering Materials	3	MME 223 Engineering Materials	3		
ECE 205 Electric Circuit Analysis	3	ECE 205 Electric Circuit Analysis	3		
	17		16		6

Junior Year

First Semester		*Second Semester*		*Summer*
MME 312 Mechanics of Materials	3	MME/ECE 303 Computer-Aided Experimentation	4	
ENG 313 Technical Writing	3	MME/PCE 314 Engineering Thermodynamics	3	
MME 231 Manufacturing Processes	3	MME 315 Mechanical Vibration	3	
MME 311 Dynamic Modeling of Mechanical Systems	3	MME 334 Quality Planning and Control	3	
MME/PCE 313 Fluid Mechanics	3	MME 434 Advanced Manufacturing	3	
MTH 222 Introduction to Linear Algebra	3			
	18		16	

Senior Year

First Semester		*Second Semester*		*Summer*
MME 411 Machine and Tool Design	4	MME 412 Advanced Mechanics of Materials	3	
MME 414 Advanced Thermodynamics	3	MME 435 Manufacturing Topics	3	
MME/ECE 436 Control of Dynamic Systems	3	MME/ECE 449 Senior Design Project (MPC)	2	
MME 437 Computer-IntMMEated Mfg Systems	3	PCE 403 Heat Transfer	3	
MME/ECE 448 Senior Design Project (MPC)	2	Technical Elective (see below)	3	
Technical Elective (see below)	3	Miami Plan Biological Science Course (MPF IVA)	3	
	18		17	

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

The Miami Plan for Liberal Education Foundation (MPF) requirement includes 6 hours of English Composition (ENG 111-112 fulfills this requirement); 12 hours in Fine Arts, Humanities, and Social Science (ECO 201 fulfills 3 hours of Social Science) with a minimum of 3 hours in each; 6 hours in U.S. and World Cultures; 9 hours of Natural Science, including one laboratory course with a minimum of 3 hours in Biological Science and 3 hours in Physical Science (PHY 181-182, 183-184 and CHM 141-144 more than fulfills the Physical Science requirement; however, a biological science course is still required); 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). 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 must also complete 12 hours of Focus: Advanced Liberal Learning courses, including 9 hours in an approved Thematic Sequence (MPT) [This sample curriculum assumes students will use the MTH 2 Basic Mathematical Tools for Science thematic sequence using MTH 151, MTH 222, and STA 368.] and a 3 hour Senior Capstone Experience (MPC) (MME/ECE 448/449 fulfills the capstone requirement).

Technical Electives - Select two courses from the courses listed below

Technical electives for a Manufacturing Engineering / Mechanical Engineering double major must be chosen from the list below. Electives may not be a course that serves as a required course for either the Manufacturing Engineering or Mechanical Engineering majors (i.e. EGR 315, 334, 412, 414, 434, 435, 437, PSE 403).

ECE/CSA 287 Digital Systems Design
ECE 304 Electronics
ECE 305 Electric Circuit Analysis II
ECE 306 Signals & Systems
MME 431 Cost Estimating for Engineers
PHY 286 Introduction to Computational Physics
PCE 482 Process Control
CSA 174 Fundamentals of Programming & Problem Solving
CSA 271 Object-oriented Programming
CSA 273 Optimization Of Modeling
CSA 278 Computer Architecture
CSA 372 Analysis of Stochastic Systems
CSA 484 Manufacturing Systems