

Master of Science Program of Study

Department of Mechanical & Aerospace Engineering
The Henry Samueli School of Engineering
University of California, Irvine

Student Information		
Last name:	First name:	Faculty Advisor:
Address:		
Home phone:	Office phone:	Email:
Major area of study:	Minor area of study:	M.S. degree requirements to be completed by:

Table 1: List of approved required courses.

Area	Approved Courses
Applied Math	MAE 200A, 200B
Synthesis and Integration	MAE 210, 214, 215, 223A, 225, 236, 237, 238, 242, 245, 247, 249, 250, 252, 253, MAE 260, 261, 273

Table 2: List of approved major and minor courses for all fundamental areas.

Area	Approved Major Courses	Approved Minor Courses
Fluid Dynamics	MAE 230A, 230B, 230C, 230D, 231, 233	MAE 230A, 230B
Solid / Structural / Material Mechanics		MAE 207, 254 MSE 256A, 256B, 256C
Dynamics & Control	MAE 206, 241, 270A, 274, 275, 276	MAE 206, 241, 270A, 274
Transport & Thermal Sciences	MAE 216, 217, 220, 221, 222, 224	MAE 216, 217, 220, 221, 222, 224

Signature of the Candidate _____	Date: _____
First Approval Signature _____ <small>Faculty Advisor</small>	Date: _____
Second Approval Signature _____ <small>Graduate Advisor</small>	Date: _____
Third Approval Signature _____ <small>Department Chair or Associate Chair for Academic Affairs</small>	Date: _____

Required Courses			
Required Courses	Units	Grade	Qtr/Yr
1.			
2.			
Courses Related to Major			
Major Courses	Units	Grade	Qtr/Yr
3.			
4.			
5.			
Courses Related to Minor			
Minor Courses	Units	Grade	Qtr/Yr
6.			
Research Courses			
Lecture Courses	Units	Grade	Qtr/Yr
7.			
8.			
8.			
9.			
Elective Courses			
Research Courses	Units	Grade	Qtr/Yr
10.			
11.			
12.			
13.			
14.			
			TOTAL UNITS

THESIS OPTION

A minimum of 24 units in graduate courses numbered MAE 200-289 are required. Seminar and research units complete the required 36 units.

Applied Math Course: at least one course from the approved Applied Math area is required.

Synthesis and Integration Course: at least one course from the approved Synthesis and Integration area is required.

Major Area of Study: at least three courses from the approved list of courses in the major area are required.

Minor Area of Study: at least one course from the approved list of courses in the minor area is required.

MAE 296: 9 units are required.

MAE 298: 3 units are required.

At least 6 units of elective courses are required.

Any course numbered MAE 200-289 not used for the above requirements qualifies for use here.

With the approval of the Graduate Advisor, 2 courses in MAE 200-289 may be replaced by grad tech electives in other departments.

One senior-level technical elective (non-required) UG course in MAE may be used to replace a course numbered 200-289.

COMPREHENSIVE EXAM OPTION

33 units in graduate courses numbered MAE 200-289 are required. 3 units of MAE 298 are required. Up to 6 units of MAE 294 could be added to bring the total to 33 units.

Applied Math Course: at least one course from the approved Applied Math area is required.

Synthesis and Integration Course: at least one course from the approved Synthesis and Integration area is required.

Major Area of Study: at least three courses from the approved list of courses in the major area are required.

Minor Area of Study: at least one course from the approved list of courses in the minor area is required.

MAE 294: up to 6 units of MAE 294 including documentation of a research project in are allowed in lieu of 6 units of MAE 200-289

MAE 298: 3 units are required.

9 to 15 units of elective courses are required.

Any course numbered MAE 200-289 not used for the above requirements qualifies for use here.

With the approval of the Graduate Advisor, 2 courses in MAE 200-289 may be replaced by grad tech electives in other departments.

One senior-level technical elective (non-required) UG course in MAE may be used to replace a course numbered 200-289.

GRADUATE COURSES OFFERED

Update: 19-Sep-07		2007	2008	2008
COURSE	DESCRIPTION	FALL	WINTER	SPRING
MAE200A	Engr. Anal. I	Mease		
MAE200B	Engr. Anal. II		Liu	
MAE206	Optimization Methods			Sideris
MAE207	Computational Methods			Atluri
MAE214	Fuel Cell Fund. & Tech.			Brouwer
MAE216	Stat. Thermo	Dunn-Rankin		
MAE217	Generalized Thermo			Madou
MAE220	Cond. Heat Transfer		Wang	
MAE221	Conv. Heat Transfer		-	Wang
MAE223A	Num. Method. Lam.	Elghobashi		
MAE223B	Num. Method. Turb.		Elghobashi	
MAE230A	Inv. Inc. Fluid Mech.	Sirignano		
MAE230B	Visc. Inc. Fluid Mech.		Rangel	
MAE230C	Compr. Fluid Dyn.			Catrakis
MAE231	Fund. Turb.		Catrakis	
MAE233	Turb. Shear Flows	Papamoschou		
MAE237	Comput. Fluid Dyn.			Liu
MAE241	Dynamics	Bobrow		
MAE244	Theor. Kinem.		McCarthy	
MAE247	Micro Sys. Design			Shkel
MAE249	Micro Sens. Act.	Shkel		
MAE252	Fund. Microfabrication		Madou	
MAE253	Bio MEMS		Madou	
MAE254	Mechanics of Solids		Atluri	
MAE261	Air Qual. Model.			Dabdub
MAE270A	Linear Systems I	Jabbari		
MAE270B	Linear Systems II			Jabbari
MAE272	Robust Control		Sideris	
MAE274	Optimal Control	Villac		
MAE276	Geo. Nonlin. Control		Mease	
MAE295.a	Spacecraft Dyn. & Ctl			Villac
MAE2xx	New Topic			Gamero

**Courses that are acceptable as MAE Senior-Level
Technical Electives (non-required)**

MAE 110
MAE 117
MAE 156
MAE 164
MAE 171
MAE 172
MAE 180
MAE 183
MAE 185
MAE 188