

Course of Study for Mechanical Engineering
(For students entering Fall 2009)

Freshman Year/Fall Semester	Cr.	Freshman Year/Spring Semester	Cr.
__25.107	Engineering I	__25.108	Engineering II
__42.101	(Gen. Ed.) College Writing I	__42.102	(Gen. Ed.) College Writing II
__ . . .	(Gen. Ed.) SS ¹	__84.117	Selected Topics in Chemistry OR
__92.131	Calculus I	__84.121	Chemistry I
__95.141	Physics I	__84.119	Selected Topics in Chem. Lab OR
__96.141	Physics I Lab	__84.123	Chemistry I Lab
	16	__92.132/42	Calculus II
		__95.245	Physics of Matter
		__96.245	Physics of Matter Lab
			17
Sophomore Year/Fall Semester	Cr.	Sophomore Year/Spring Semester	Cr.
__22.201	Design Lab I CAD	__22.202	Design Lab II Mach.
__22.211	Statics	__22.212	Mechanics of Materials
__22.296	Mech. Behav. of Materials	__22.213	Dynamics
__92.231/41	Calculus III	__16.211	Fund. of Electricity
__ . . .	(Gen. Ed.) AH ¹	__16.212	Fund. of Electricity Lab
	15	__92.234/236	Differential Equations
		__ . . .	(Gen. Ed.) SS ¹
			18
Junior Year/Fall Semester	Cr.	Junior Year/Spring Semester	Cr.
__22.242	Thermodynamics	__22.302	ME Lab I (Instrum.)
__22.381	Fluid Mechanics	__22.322	Mech. Des. II (Dyn.)
__22.321	Mech. Des. I (Kine)	__22.341	Cond. & Rad. Heat Transfer
__22.361	Math Methods	__22.311	App. Strength
__45.334	Engineering Ethics AHE ¹	__49.201/202	(Gen. Ed.) SS ¹ Economics I or II
	15		15
Senior Year/Fall Semester	Cr.	Senior Year/Spring Semester	Cr.
__22.342	Convective Processes	__22.423	Capstone Design I ²
__22.403	ME Lab II - Appls.	__22.441	Anal. Thermo-fluid Processes
__22.451	Dynamics Systems	__22.4__	ME Tech. Elective
__22.425	Des. Mach. Elements	__22.4__	ME Tech. Elective
__22.473	Des. Theory & Constraints	__ . . .	(Gen. Ed.) AH ¹
__22.4__	ME Tech. Elective		15
	18		

Total credits: 129

¹ Refer to the *Schedule of Classes* booklet for General Education requirements. The General Education electives may be taken in any order. You should meet with your faculty advisor to determine how you will meet the General Education requirements in Diversity (D).

² All students take Design Theory and Constraints (22.473) and Capstone I (22.423) as their Capstone Design experience.

- Technical electives must be taken at the 400 level or above. Technical electives can also be taken at the 300 level or above in math or physics, or other engineering discipline – but prior permission should be obtained using an academic petition.
- Undergraduate students with at least a 3.0 GPA may also take 500 level graduate courses as technical electives.

However, they should check with the instructor to be sure their background is suitable. Students entering Fall 2009 must achieve C or better in 22.201, 22.202, 22.211, 22.212, 22.213, 22.242, 22.296, 22.311, 22.321, 22.322, 22.341, 22.381.

Prerequisites for Mechanical Engineering Courses

Course		Prerequisites	Prerequisite for
25.107	Intro. Eng. I		25.108
84.117/119	Selected Topics in Chem OR		22.242
84.121/123	Chem. I		22.242
92.131	Calc. I		92.132, 95.245
95.141, 96.141	Phys. I	92.131 (co-requisite)	95.245, 96.245, 22.211
25.108	Intro. Eng. II	25.107	22.201
92.132	Calc. II	92.131	92.231, 92.236, 22.211 22.242, 16.211, 22.361 22.212, 22.213
95.245, 96.245	Phys. of Matter	95.141, 96.141, 92.131	22.242
22.201	Des. Lab I	25.108	22.202 (22.321 co-req.)
22.211	Statics	92.132, 95.141	22.212, 22.213
22.296	Mech Behav of Mat'l		22.311, 22.425
16.211, 16.212	Fund. Of Electricity	92.132	22.302, 22.451
92.231	Calc. III	92.132	22.381, 22.341
22.202	Des. Lab II	22.201	22.473
22.212	Strength Mat.	22.211, 92.132	22.311, 22.302
22.213	Dynamics	22.211, 92.132	22.321, 22.451, 22.381 22.486, 22.483
22.242	Thermodynamics	92.132, 95.245, 84.117	22.341, 22.302
92.236	Eng. Diff. Eqs.	92.132	22.341, 22.451, 22.381
22.311	Appl. Strength.	22.212, 22.296	22.403, 22.423, 22.425
22.321	Des. of Machines I	22.213 (22.201 co-req.)	22.322
22.341	Heat Cond. & Rad.	22.242, 92.236, 92.231	22.342, 22.403
22.361	Appl. Analysis	92.236	22.453, 22.302, 22.457
22.381	Fluid Mechanics	22.213, 92.231, 92.236	22.342, 22.484, 22.486 22.403, 22.483
22.302	Lab I	22.212, 22.242, 16.211, 22.361	22.403, 22.473
22.322	Des of Machines II	22.321	22.423, 22.425, 22.473
22.342	Convective Processes	22.341, 22.381	22.423, 22.441, 22.486
22.451	Dynamic Systems	22.213, 92.236, 16.211	22.423, 22.457
22.473	Des. Theory & Const.	22.202, 22.322, 22.302	22.423
22.403	Lab II	22.302, 22.311, 22.341, 22.381	
22.425	Des. Mach. El.	22.311, 22.322, 22.296	
22.423	Cap. Des. I	22.311, 22.322, 22.342, 22.473, 22.451	
22.441	Anal. Th./Fl.	22.342	
22.486	Ocean Engineering	22.213, 22.381, 22.342 (co)	
Elective courses:			
22.453	Mecatronics	22.361	
22.457	Vibrations	22.451, 22.361 or instructor permission	
22.483	Aerodynamics	22.381, 22.213	
22.484	Jet Prop./Turb.	22.381	