Engineering Mechanics Curriculum Checklist **Student:**

The required courses in the Engineering Mechanics curriculum are summarized below.

Course	Title	Cr.	Grade	Term	Pre/Co-Req
Chem 0960	Gen. Chem. Eng. 1	3			
Chem 0970	Gen. Chem. Eng. 2	3			Chem 0960
Math 0220	Anal. Geo. & Calc. 1	4			
Math 0230	Anal. Geo. & Calc. 2	4			Math 0220
Math 0240	Anal. Geo. & Calc. 3	4			Math 0230
Math 0280	Mat. & Lin. Alg.	3			Math 0220
Math 0290	Diff. Eq.	3			Math 0230
Stat 1000	Appl. Stat. Methods	4			
Math 1550	Vector Analysis	3			
Phys 0174	Phys. Sci. & Eng. 1	4			*Math 0220*
Phys 0175	Phys. Sci. & Eng. 2	4			Phys 0174, *Math 0230*
Phys 0477	Thermal Phys, Rel&QM	4			Phys 0175, *Math 0240*
Phys	Upper Level Physics	3			
Engr 0011	Int. Eng. Analysis	3			
Engr 0012	Eng. Computing	3			Engr 0011
Engr 0022	Mat. Str. & Prop.	3			Phys 0175, Math 0230
Engr 0135	Statics & Mech. Matls 1	3			Math 0230, PHYS 0174
Engr 0145	Statics & Mech. Matls 2	3			Engr 0135
MEMS 0024	Intro to Design	3			
MEMS 0031	Lin. Circ. & Sys. 1	3			Phys 0175, Math 0230
MEMS 0051	Intro to Thermo	3			PHYS 0175, CHEM 0960
MEMS 1014	Dynamic Systems	3			Mems 1015
MEMS 1015	Rigid Body Dyn.	3			Ece 0031
MEMS 1041	Mech. Measure. 1	3			
MEMS 0071	Intro. Fluid Mechanics	3			
MEMS 1028	Mech Design 1	3			
MEMS 1047	Finite Element Anal	3			
MEMS 1020	Vibrations	3			
MEMS 1010	Exp. Meth. In MSE	3			
MEMS 1053	Struct. Of Crystals	3			
	Eng. Mech. Elect.	3			
	Eng. Mech. Elect.	3			
	Senior Design 1[+]	3			
	Senior Design 2[++]	3			
	Hum. Elective[‡]	3			
	Soc. Sci. Elective[‡]	3			
	Hum./Soc. Sci. El.[‡]	3			

	Hum./Soc. Sci. El.‡	3			
	Hum./Soc. Sci. El. ‡†	3			
	Hum./Soc. Sci. El. ‡	3			
Total		127			

Upper Level Physics: Physics courses with course numbers > 1000

+ A senior design course offered by one of the other SSOE engineering programs is required.
++ May be ENGR 1050 Product Realization, or with preapproval a senior design project arranged with a faculty mentor and taken as ENGSCI 1801. Students wishing to complete a two-term project with a faculty mentor may request approval for the second term to count as a program elective (ENGSCI 1802).
Note: All humanities and Social Science electives must be from the SSOE approved list. Two courses need to be in single area (see SSOE guidelines).
† Writing intensive course
‡All humanities and Social Science electives must be from the SSOE approved list. Two courses need to be in single area (see SSOE guidelines).

Italicized courses indicate co-requisites; courses must be taken prior to or concurrently.

Engineering Mechanics Program Electives

Bioengineering

BIOE 1061 Human Factors EngineeringMEMS
BIOE 1063 Intro to Orthopaedic BIomech
BIOE 1064 Biomech of Organs, Tissues and Cells
BIOE 1630 Biomech 1: Mechanical Principles Biological
BIOE 1631 Biomech 2: Intro to Biodyn and Biosolid Mech
BIOE 1632 Biomech 3: Biodynamics of Movement
BIOE 1633 Biomech 4: Biomech of Organs, Tissues and Cells

Civil Engineering

CEE 1801 Principles of Soil Mechanics
CEE 1821 Foundation Engineering
CEE 1412 Introduction to Hydrology
CEE 1401 Open Channel Hydraulics
CEE 1330 Intro. to Structural Analysis
CEE 1341Steel Structures

Physics

PHYS 1331 Mechanics
PHYS 1341 Thermo and Statistical Mechanics

Material Science

MEMS 0040 Materials and Manufacturing
MEMS 1011 Structure and Properties Lab (2cr)
MEMS 1030 Materials Selection
MEMS 1053 Structures of Crystals
MEMS 1058 Electronic Properties of Materials

MEMS 1059 Phase Equilibria in Multi-Component Materials
MEMS 1063 Phase Transformations

Mechanical Engineering

A number of mechanical engineering course can be used as program electives. Consult with the program