

# Major Academic Plan for B.S. in Mechanical Engineering

A Major Academic Plan (MAP) illustrates one way to complete a degree in a recommended number of semesters. Below is an example of an efficient and recommended plan, but actual plans will vary by individual student needs. Program requirements are based on Catalog Year.

Course Subject and Title	Credits	Min Grade	*Progr Elemer	**Whe Offered	Prerequisite	Co Requisite
<b>First Semester</b>						
GE Objective 1: ENGL 1101	3	C-	GE	F, S, Su	Appropriate placement score	
GE Objective 3: MATH 1170	4		GE	F, S, Su	MATH 1144 or 1147 or appropriate test score	
GE Objective 4	3		GE			
GE Objective 5: CHEM 1111/ CHEM 1111L	5		GE	F, S, Su	MATH 1143 or 1147 or appropriate test score	
Semester Total	15					
<b>Second Semester</b>						
GE Objective 1: ENGL 1102	3	C-	GE	F, S, Su	ENGL 1101 or equivalent	
EE 2240 Electrical Circuits I	3			F, S	MATH 1170	
MATH 1175 Calculus II	4	C-		F, S, Su	MATH 1170	
ME 1105 Solid Modeling	2	C-		F, S	MATH 1147, or MATH 1143 and 1144	
PHYS 2211 Engineering Physics I	4			F, S		MATH 1175
Semester Total	16					
<b>Third Semester</b>						
GE Objective 2: COMM 1101	3		GE			
MATH 2275 Calculus III	4			F, S	MATH 1175	
ME 1165 Structured Programming	2	C-		F, S	MATH 1170	

ME 2210 Engineering Statics or CE 2210 Engineering Statics	3			F, S		ME/CE 1105, PHYS 2211, MATH 1175	ME/CE 1105, PHYS 2211, MATH 1175)
PHYS 2212 Engineering Physics II	4			F, S		PHYS 2211	
Semester Total	16						
<b>Fourth Semester</b>							
GE Objective 4	3		GE				
MATH 2240 Linear Algebra	3			F, S, Su		MATH 1170	
MATH 3360 Differential Equations	3		UM	F, S		MATH 1175 (MATH 2275 recommended)	
ME 2220 Engineering Dynamics	3			F, S		ME/CE 2210, PHYS 2211, ME/CE 1105, MATH 1175	
ME 2266 Symbolic Programming	1			S		MATH 1175, ME 1165, MATH 2240	(ME 1165, MATH 2240)
ME 3350 Mechanics of Materials or CE 3350 Mechanics of Materials	3		UM	F, S		ME/CE 2210, PHYS 2211, ME/CE 1105, MATH 1175	
Semester Total	16						
<b>Fifth Semester</b>							
GE Objective 7 or 8	3		GE	F, S, Su			
ME 3307 Thermodynamics	3		UM	F, S		ME 2220, MATH 2275	(MATH 2275)
ME 3320 Kinematics and Dynamics of Machinery	3		UM	F		ME 1165, 2220, 2266, MATH 2240	(MATH 2275)
ME 3322 Mechanical Engineering Materials	3		UM	F, S		ME/CE 3350, ME/CE 2210, MATH 1170, CHEM 1111/ CHEM 1111L	(ME/ CE 3350)

ME 3323 Machine Design	3		UM	F	ME/CE 3350, ME 3320, ME 3322	(ME 3320, ME 3322)
Semester Total	15					
<b>Sixth Semester</b>						
GE Objective 6	3		GE			
CE 3360 Engineering Economics or CE 3361 Engineering Economics and Management	2-3		UM	F, S	ME/CE 2210 or instructor permission	
ME 3325 Advanced Machine Design	3		UM	S	ME 3320, ME 3323	
ME 3341 Fluid Mechanics or CE 3341 Fluid Mechanics	3		UM	S	ME 2220, MATH 3360	
ME 4476 Heat Transfer	3		UM	S	ME 3307, ME/CE 3341	(ME/CE 3341)
Semester Total	14-15					
<b>Seventh Semester</b>						
GE Objective 6	3		GE			
ME 4440 Vibration Analysis	3		UM	F	MATH 2275, MATH 3360, ME 3325	(ME 3325)
ME 4443 Thermal Fluids Laboratory	1		UM	F	ME 3307, ME/CE 3341, ME 4476	
ME 4465 Thermal Fluid System Design	3		UM	F	ME 3307, ME/CE 3341, ME 4476	
ME 4496A Project Design I	3		UM	F	CE 3360 or CE 3361	(CE 3360 or CE 3361)
ME Elective (consult with faculty advisor)	3			F, S		
Semester Total	16					
<b>Eighth Semester</b>						
GE Objective 9	3		GE			
ME 4406 Measurement Systems Laboratory	1		UM	S	MATH 3360, EE 2240	

ME 4463 Mechanical Systems Design	3		UM	S	ME 3320, ME 3323, ME 3325, ME 4440	
ME 4473 Mechanical Control Systems	3		UM	S	ME 2220, ME 4440, PHYS 2212, MATH 3360	
ME 4496B Project Design II	3		UM	S	ME 4496A	
ME Elective (consult with faculty advisor)	3					
Semester Total	16					
Total	124-125					

\* GE = General Education Objective, UU = Upper Division University, UM = Upper Division Major

\*\* See Course Scheduling section of the Course Policies (<http://coursecat.isu.edu/undergraduate/academicinformation/coursepolicies>) page in the Undergraduate Catalog.

### MAP Credit Summary

Code	Title	Credits
Major		84-85
General Education		40
Free Electives to reach 120		0
Total Credits		124-125