

MECHANICAL ENGINEERING

2016-2017

SEM 1	SEM 2	SEM 3	SEM 4	SEM 5	SEM 6	SEM 7	SEM 8
4 MATH 1220 or 1700 Calculus I	4 MATH 1230 or 1710 Calculus II	4 MATH 2720 Multivariate Calculus	4 MATH 3740 Differential Equations	3 ME 3560 Fluid Mechanics (F, Sp, Su1)	3 ME 3350 Instrumentation (F, Sp, Su1) (L)	1 ME 4790 Mechanical Eng. Project Planning (F, Sp)	2 IEE 3090 Eng Economy (F, Sp, Su1 or 2)
MATH 1180 ≥ C or placement	MATH 1220 or 1700 ≥ C	MATH 1230 or 1710 ≥ C	MATH 2720 ≥ C	ME 2580 ≥ C MATH 3740	ME 2570 ≥ C ME 3620 ≥ C	ME 3350 ≥ C ME 3600 ≥ C	MATH 1230 or 1710 ≥ C
					ECE 2100 ≥ C Writing Requirement	ME Design Elective ≥ C or taking concurrently	
3+1 CHEM 1100/1110 Chemistry I (F, Sp, Su1, Su2) (L)	4+1 PHYS 2050/2060 University Physics I (L)	4+1 PHYS 2070/2080 University Physics II (L)	3 ME 2500 Materials Science (F, Sp)	3 ME 3580 Mechanism Analysis (F, Sp)	3 ME 3600 Control Systems (F, Sp, Su1)	3 ME Design Elective	3 ME 4800 Mechanical Eng. Project
MATH 1110 ≥ C or placement	MATH 1220 or 1700 ≥ C MATH 1230 or 1710 ≥ C or taking concurrently	PHYS 2050 ≥ C MATH 1230 or 1710 ≥ C MATH 2720 or 2300 ≥ C or taking concurrently	MATH 1220 or 1700 ≥ C CHEM 1100/1110 ≥ C ME 2615 ≥ C	ME 2580 ≥ C CS 1060 or 1022 or 1023 ≥ C	ME 2580 ≥ C MATH 3740 ECE 2100 ≥ C		ME 4790 ≥ C
3 IEE 1020 Technical Communication (F, Sp)	1 CS 1022 or 1023 Math Software or Programming (L)	3 ME 2320 Thermodynamics I (F, Sp, Su1)	3 ME 2570 Mechanics of Materials (F, Sp, Su2)	3 ME 3620 Engineering Experimentation (F, Sp)	3 ME 4310 Heat Transfer (F, Sp, Su2)	3 ME Elective	3 or 4 ME Design Elective
ENGL 1000 ≥ C or placement	MATH 1180 ≥ C	MATH 1230 or 1710 ≥ C PHYS 2050/2060 ≥ C	ME 2560 ≥ C	MATH 1230 or 1710 ≥ C CS 1060,1022, 1023, or 1110 ≥ C	ME 2320 ≥ C ME 3560 or AAE 3710 ≥ C		
3 EDMM 1420 Engineering Graphics(L) (F, Sp)	3 ME 2615 Introduction to Mechanical Engineering	3 ME 2560 Statics (F, Sp, Su1)	4 ECE 2100 Circuit Analysis I (F, Sp, Su1) (L)	3+1 CHEM 1120/1130 Chemistry II (F, Sp, Su1, Su2) (L)	3 ME 4320 Thermodynamics II (F, Sp)	3 or 4 ME Elective	3 ME Elective
	MATH 1220 or 1700 ≥ C or concurrent	MATH 1230 or 1710 ≥ C PHYS 2050 and 2060 ≥ C	MATH 1230 or 1710 ≥ C PHYS 2070 ≥ C or taking concurrently	CHEM 1100/1110 ≥ C or PHYS 3090/3100 Physics III (F, Sp) (L) PHYS 2070 ≥ C MATH 2300 or 2720 ≥ C	ME 2320 ≥ C ME 3560 ≥ C or taking concurrently		
3 GEN ED I* Fine Arts	3 GEN ED II* Humanities		3 ME 2580 Dynamics (F, Sp, Su1)	3 ME 3650 Machine Design I (F, Sp) (L)	3 ECE 2110 Machine & Electronics Circuits (F, Sp) (L)	3 GEN ED V* Social/Behavioral Science	2 GEN ED VIII* Health & Well Being
			ME 2560 or 2530 ≥ C PHYS 2050/2060 ≥ C	EDMM 1420 ≥ C ME 2570 ≥ C ME 2580 ≥ C ME 2500 or AAE 2500 ≥ C ME 2615 or AAE 2610 ≥ C	ECE 2100 ≥ C		
						3 GEN ED III* U.S. Cultures and Issues	3 GEN ED IV* Other Cultures and Issues
17-18 hours	16 hours	15 hours	17 hours	16-17 hours	15-16 hours	16-18 hours	16-17 hours

NOTES: Prerequisite courses are shown in smaller print. 46 Cr. Pre-Engineering Req. 56-57 Cr. ME Req. 11 Cr. Gen Ed Req. 15-17 Cr. ME Elective Req. 128-131 total hours
 *See your academic advisor for general education requirements. A 'C' or better is required for admission to upper level CEAS courses

MECHANICAL ENGINEERING ELECTIVES

Students must complete five different elective courses. A minimum of two must be design courses and two must have a laboratory experience (marked with an "L").***

ME Design Elective Courses (choose two)

3	ME 4330 Environmental Systems Design in Buildings	3	ME 4390 - Design of Thermal Systems (L)	3	ME 4680 - Engine Design (L)	3	ME 4530 - Machine Desing II (L)
	ME 4310 ≥ C or CHEG 3120 ≥ C		(ME 3350 ≥ C and ME 4310 ≥ C) or (CHEG 2810 ≥ C, CHEG 3120 ≥ C, and IEE 2610 ≥ C)		ME 3560 ≥ C and (ME 3670 or ME 4320) ≥ C		ME 3650 ≥ C
	ME 4320 ≥ C						
4	AE 4630 - Aerospace Structural Design	3	AE 4690 - Aircraft Design	3	ME 4700 - Vehicle Structural Design	3	ME 5390 - Advanced Thermal Design
	ME 2570 ≥ C		AE 3800 ≥ C and AE 4600 ≥ C		ME 3580 ≥ C and ME 3650 ≥ C		ME 4310 ≥ B
3	ME 5730 - Materials Selection in Design	3	ME 5500 - Modern Engineered Materials	3	ME 5530 - Advanced Product Engineering		
	ME 3650 ≥ B		ME 2500 or AE 2500 ≥ B ECE 2100 ≥ B		ME 3600 and ME 4530 ≥ B		

***Students may choose more than two design electives. Graduate level (5000+) courses require a B or better in all prerequisites.

ME Electives

4	AE 3610 Aerodynamics I (L)	3	ME 4570 Experimental Solid Mechanics (L)	3	ME 3670 Internal Combustion Engines I (L)	3	ME 3990 Cooperative Education	3	AE 4600 Aircraft Stability and Control
	MATH 2720 ≥ C		ME 2500 ≥ C or AE 2500 ≥ C		MATH 2720 ≥ C		Repeatable 3 times to count as one elective 3 credit course		AE 3710 ≥ C and ME 3600 ≥ C
	AE 2610 ≥ C or ME 3560 ≥ C		ME 2570 ≥ C		ME 2580 ≥ C				
	PHYS 2050/2060 ≥ C		ME 3350 ≥ C		ME 2320 ≥ C				
3	ME 4590 Dynamics of Machinery	3	ME 4650 Vehicle Dynamics	3	ME 4710 Motion and Control (L)	3	AE 4660 - Aerospace Propulsion I	3	ME 5710 Gas Dynamics
	ME 3580 ≥ C		ME 3580 ≥ C		ME 3600 ≥ C or ECE 3710		ME 2320 ≥ C and (ME 3560 or AE 3710) ≥ C		ME 4310 ≥ B
			ME 3600 ≥ C						ME 4320 ≥ B
			ME 3650 ≥ C						
3	ME 5300 - Theoretical and Computational Fluid Mechanics	3	ME 5550 Intermediate Dynamics	3	ME 5580 Mechanical Vibrations	3	ME 5640 Engineering Noise Control (L)	3	ME 5770 - Fuel Cell and Alternative Energy (L)
	ME 3560 ≥ B		ME 2580 ≥ B		ME 2580 ≥ B		ME 2580 ≥ B		(ME 3670 or ME 4320) ≥ B
			MATH 3740 ≥ B		MATH 3740 ≥ B		MATH 3740 ≥ B		ME 3560 ≥ B

ME Electives Con't.

3	ME 5450 - Computational Fluid Dynamics	3	ME 5690 Principles of Fatigue and Fracture	3	ME 5720 - Advanced Thermodynamics	3	ME 5750 Tribology	3	ME 5200 - Orthopaedic Biomechanics
	ME 3560 ≥ B		ME 3650 ≥ B		ME 4310 ≥ B		ME 3560 ≥ B		(ME 3650 or AE 4630) ≥ B
	CS 2010 ≥ B				ME 4320 ≥ B		ME 3650 ≥ B		
3	ME 5610 - Finite Element Method	3	ME 5410 - Continuous System Modeling & Simulation	3	ME 5430 - Mechanical Systems Control	3	ME 5850 - Mechatronics	3	ME 5350 - Applied Spectroscopy
	ME 2570 ≥ B		ME 3600 ≥ B		ME 3600 ≥ B		ECE 2100 ≥ B		ME 3350 ≥ B
	ME 3560 ≥ B						ME 2590 ≥ B		
	ME 4310 ≥ B						(ECE 3710 or ME 3600) ≥ B		
	MATH 3740 ≥ B								
3	ME 5600 - Engineering Analysis	3	ME 5620 - Application of Numerical Methods in Engineering						
	ME 3600 ≥ B		Instructor consent						