

Major: Manufacturing Engineering, B.S.: 128 units
2018-2019 Academic Year

	Fall		Units	Spring		Units	Comments	
	Courses	Requirements/Comments		Courses	Requirements/Comments			
Year 1	MFE 2261 Engineering Graphics I		2	PHY 1510 Introduction to Newtonian Mechanics (B1)	Prereq: C- or better in MAT 114 or MAT 1140. Coreq: PHY 1510L.	3		
	CHM 1210 General Chemistry I (B1)	Prereq: C or better in MAT 12, 105, 106, 112, 114, 115, 116, 120, 125, 130, 191, 214, 216, 224, MAT 1050, MAT 1052, MAT 1060, MAT 1140, MAT 1150, MAT 1200, MAT 1250, MAT 1300, MAT 1310, MAT 1910, MAT 2140, MAT 2240, MAT 2250, STA 120, or STA 1200; or C- o	3	PHY 1510L Newtonian Mechanics Laboratory (B3)	Coreq: PHY 1510	1		
	CHM 1210L General Chemistry Laboratory I (B3)	Prereq: C or better in MAT 12, 105, 106, 112, 114, 115, 116, 120, 125, 130, 191, 214, 216, 224, MAT 1050, MAT 1052, MAT 1060, MAT 1140, MAT 1150, MAT 1200, MAT 1250, MAT 1300, MAT 1310, MAT 1910, MAT 2140, MAT 2240, MAT 2250, STA 120, or STA 1200; or C- o	1	MAT 1150 Calculus II (B4)	Prereq: MAT 1140, MAT 115B, MAT 1140C, AP Calc AB \geq 3, or AP Calc BC \geq 3.	4		
	MAT 1140 Calculus I (B4)	Prereq: C or better in MAT 1050 and MAT 1060, or appropriate score on MDTP or ALEKS placement test.	4	IME 1130L Industrial and Manufacturing Engineering Computations Laboratory		1		
	IME 2241 Industrial and Manufacturing Engineering Fundamentals		2	IME 2390 Industrial Costs and Controls		2		
	IME 2241L Industrial and Manufacturing Engineering Fundamentals Laboratory		1	GE Area A1: Oral Communication		3		
	GE Area A2: Written Communication		3	EGR 1000 Engineering, Society, and You (E)		2		
	MFE 2261L Engineering Graphics Laboratory	Coreq: MFE 2261	1	EGR 1000L Engineering, Society, and You Laboratory (E)		1		
	Total Units		17	Total Units		17		

	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
Year 2	MFE 2171 Manufacturing Processes-Materials, Metrology and Treatments	Prereq: CHM 121 or CHM 1210. Coreq: MFE 2171L.	2	MFE 2211 Manufacturing Processes- Casting, Forming, Joining, Metal Removal	Prereq: MFE 217, MFE 2171, or ETM 2171. Coreq: MFE 2211L.	3	
	MFE 2171L Manufacturing Processes-Materials, Metrology and Treatments Laboratory	Coreq: MFE 2171	1	MFE 2211L Manufacturing Processes- Casting, Forming, Joining, Metal Removal Laboratory	Coreq: MFE 2211	1	
	ARO 2041 Engineering Statics	Prereq: C- or better in MAT 1150, or MAT 115, PHY 1510 or PHY 131, and PHY 1510L or PHY 131L.	3	CE 2051 Mechanics of Materials	Prereq: C- or better in ME 214, ETT 210, CE 2041, ARO 2041, or ETM 2101.	3	
	PHY 1520 Introduction to Electromagnetism and Circuits	Prereq: C- or better in MAT 115 or MAT 1150; and C- or better in PHY 132, PHY 132B or PHY 1510. Coreq: PHY 1520L.	3	MAT 2240 Elementary Linear Algebra and Differential Equations	Prereq: MAT 116 or MAT 1150.	3	
	MAT 2140 Calculus III	Prereq: MAT 116, MAT 214, MAT 1150, or MAT 1150C.	4	IME 3140 Engineering Probability and Statistics	Prereq: MAT 115 or MAT 1150.	3	
	GE Area D1: U.S. History American Ideals		3	GE Area D2: U.S. Constitution and California Government		3	
	PHY 1520L Introductory Laboratory on Electromagnetism and Circuits	Coreq: PHY 1520	1			0	
			0			0	
		Semester Total Units	17		Semester Total Units	16	

	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
Year 3	MFE 2501 Numerical Control and CAM	Prereq: MFE 201, MFE 2010, MFE 221, or MFE 2211. Coreq: MFE 2501L.	3	MFE 3260 Design for Manufacturing	Prereq: IME 314 or IME 3140; MFE 226 or MFE 2261; MFE 250 or MFE 2501; and MFE 201, MFE 230, or MFE 2211. Coreq: MFE 3260L.	1	<i>Graduation Writing Test must be taken before completion of 75 units.</i>
	MFE 2501L Numerical Control and CAM Laboratory	Coreq: MFE 2501	1	MFE 3260L Design for Manufacturing Laboratory	Coreq: MFE 3260	1	
	IME 3261 Production Planning and Control	Prereq: IME 224, or IME 2241; and IME 312, IME 314, or IME 3140; and IME 113 or IME 1130L.	3	MFE 3221L Manufacturing Metrology Laboratory		1	
	GE Area C1: Visual and Performing Arts		3	CHE 2301 Process and Automation	Prereq: C- or better in PHY 133 or PHY 1520, and MAT 215 or MAT 2140.	2	
	EC 2202 Principles of Macroeconomics (D3)	Prereq: C or better in MAT 12, ESM 12, MAT 1050, MAT 105, STA 1200, STA 120, MAT 1250, MAT 125, MAT 1140, MAT 114, MDTP score >23, SAT Math >=570, or ACT >=23.	3	CHE 2301L Process and Automation Laboratory	Prereq: C- or better in PHY 133 or PHY 1520, and MAT 215 or MAT 2140 and; CHE 201 or CHE 2011; OR IME 113L or IME 1130L.	1	
	CE 2061 Fluid Mechanics	Prereq: C- or better in ME 214, ETT 210, CE 2041, ARO 2041, or ETM 2101.	3	IME 4030 Fiscal Implications in Technical Decision Making (B5, D4)		3	
			0	GE Area B2: Life Sciences		2	
			0	GE Area C2a: Philosophy and Civilization		3	
	<i>Take the Graduation Writing Test</i>						
	Semester Total Units		16	Semester Total Units		14	

	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
Year 4	MFE 4650 Metal Working Theory and Applications	Prereq: MFE 201, MFE 230, MFE 221, MFE 2010, or MFE 2211; and ME 218 or CE 2051.	3	Major Elective	Select from Curriculum Sheet	3	
	MFE 4501 Introduction to Computer Integrated Manufacturing and Automation	Prereq: ECE 231 or CHE 2301; MFE 201, MFE 2010, MFE 230, or MFE 2211; and MAT 224 or MAT 2240. Coreq: MFE 4501L.	2	Major Elective	Select from Curriculum Sheet	2	
	MFE 4501L Introduction to Computer Integrated Manufacturing and Automation Laboratory	Coreq: MFE 4501	1	IE 4290 Discrete System Simulation	Prereq: IME 113 or IME 1130L; and IME 312, IME 314, or IME 3140. Coreq: IE 4290L.	2	
	IME 4150 Statistical Quality Control	Prereq: IME 312, IME 314, or IME 3140. Coreq: IME 4150L .	2	IE 4290L Discrete System Simulation Laboratory	Prereq: IME 113 or IME 1130L; and IME 312, IME 314, or IME 3140. Coreq: IE 4290.	1	
	IME 4150L Statistical Quality Control Laboratory	Prereq: IME 312, IME 314, or IME 3140.	1	IME 3311 Facilities Planning, Layout and Design	Prereq: IME 326 or IME 3261; and MFE 126 or MFE 1260.	3	
	EGR 4810 Project Design Principles and Applications (B5)		1	EGR 4820 Project Design Principles and Applications (B5)		1	
	IE 3921 Principles of Lean Implementation		2	EGR 4830 Project Design Principles and Applications (B5)		1	
	GE Area C2b: Literature and Language Other than English		3	IME 4020 Ethical Concepts in Technology and Applied Science (B5, C3)		3	
	<i>File an application to graduate</i>						
Semester Total Units			15	Semester Total Units		16	
Total Units						128	