

Manufacturing Engineering, B.S.: 128 units 2020-2021 Academic Year

	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
Year 1	MFE 2261 Engineering Graphics I [FSp]	Coreq: MFE 2261L.	2	PHY 1510 Introduction to Newtonian Mechanics (B1) [FSp]	Prereq: C- or better in MAT 114, MAT 1140, MAT 1140C, MAT 115, MAT 116 or MAT 1150 . Coreq: PHY 1510L.	3	[] = Term Typically Offered F = Fall Sp = Spring Su = Summer e = even years o = odd years
	CHM 1210 General Chemistry I (B1) [FSpSu]	Prereq: SAT Math \geq 550; ACT Math \geq 23; 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, Coreq: CHM 1210L.	3	PHY 1510L Newtonian Mechanics Laboratory (B3) [FSp]	Coreq: PHY 1510.	1	
	CHM 1210L General Chemistry Laboratory I (B3) [FSpSu]	Prereq: SAT Math \geq 550; ACT Math \geq 23; 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- or better in CHM 121 and CHM 121L. Coreq: CHM 1210.	1	MAT 1150 Calculus II (B4) [FSpSu] (Success Marker)	Prereq: MAT 1140, MAT 115B, MAT 1140C, AP Calc AB \geq 3, or AP Calc BC \geq 3.	4	
	MAT 1140 Calculus I (B4) [FSpSu] (Success Marker)	Prereq: C or better in MAT 1050 and MAT 1060, MAT 1070, or appropriate score on MDTP or ALEKS placement test.	4	GE Area A1: Oral Communication [FSP]		3	
	IME 2241 Industrial and Manufacturing Engineering Fundamentals [FSp]	Coreq: IME 2241L.	2	IME 2390 Industrial Costs and Controls [FSp]		2	
	IME 2241L Industrial and Manufacturing Engineering Fundamentals Laboratory [FSp]	Coreq: IME 2241.	1	IME 1130L Industrial and Manufacturing Engineering Computations Laboratory [FSp]		1	
	GE Area A2: Written Communication [FSp] (Success Marker)		3	EGR 1000 Engineering, Society, and You (E)		2	
	MFE 2261L Engineering Graphics Laboratory [FSp]	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 [FSp]	Prereq: CHM 121 or CHM 1210. Coreq: MFE 2171L.	2	MFE 2211 Manufacturing Processes- Casting, Forming, Joining, Metal Removal [FSp]	Prereq: MFE 217, MFE 2171, ETM 2171, MTE 207, or MTE 2070. Coreq: MFE 2211L.	3	
	MFE 2171L Manufacturing Processes-Materials, Metrology and Treatments Laboratory [FSp]	Coreq: MFE 2171.	1	MFE 2211L Manufacturing Processes- Casting, Forming, Joining, Metal Removal Laboratory [FSp]	Coreq: MFE 2211.	1	
	ARO 2041 Engineering Statics [FSp]	Prereq: C- or better in MAT 1150, MAT 115, or MAT 130; C or better in PHY 1510 or PHY 131; and C of better in PHY 1510L or PHY 131L.	3	CE 2051 Mechanics of Materials [FSpSu]	Prereq: C- or better in ME 214, ETT 210, CE 2041, ARO 2041, or ETM 2101.	3	
	PHY 1520 Introduction to Electromagnetism and Circuits [FSp]	Prereq: C- or better in MAT 115 or MAT 1150; and C- or better in PHY 132, PHY 132B, PHY 1510B or PHY 1510. Coreq: PHY 1520L.	3	MAT 2240 Elementary Linear Algebra and Differential Equations [FSpSu]	Prereq: MAT 116, MAT 1150, or MAT 1150C.	3	
	PHY 1520L Introductory Laboratory on Electromagnetism and Circuits [FSp]	Coreq: PHY 1520.	1	IME 3140 Engineering Probability and Statistics [FSp]	Prereq: MAT 115 or MAT 1150.	3	
	MAT 2140 Calculus III [FSpSu]	Prereq: MAT 116, MAT 214, MAT 1150, or MAT 1150C.	4	GE Area D2: U.S. Constitution and California Government [FSp]		3	
	GE Area D1: U.S. History American Ideals [FSp]		3				
			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 [FSp]	Prereq: MFE 201, MFE 2010, MFE 221, or MFE 2211; and MFE 126, MFE 1260, MFE 226, or MFE 2261. Coreq: MFE 2501L.	3	MFE 3260 Design for Manufacturing [FSp]	Prereq: IME 314 or IME 3140; MFE 226 or MFE 2261; MFE 250 or MFE 2501; and MFE 201, MFE 2010, 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 [FSp]	Coreq: MFE 2501.	1	MFE 3260L Design for Manufacturing Laboratory [FSp]	Coreq: MFE 3260.	1	
	IME 3261 Production Planning and Control [FSpSu]	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 [FSp]		1	
	GE Area C1: Visual and Performing Arts [FSp]		3	CHE 2301 Process and Automation [FSp]	Prereq: C- or better in PHY 133 or PHY 1520, MAT 214 or MAT 2140, and CHE 201, CHE 2011, IME 113L, or IME 1130L. Coreq: CHE 2301L.	2	
	EC 2201 Principles of Microeconomics (D3) [FWSpSu]	or EC 2202 Principles of Macroeconomics (D3)	3	CHE 2301L Process and Automation Laboratory [FSp]	Prereq: MAT 215 or MAT 2140; CHE 201, CHE 2011, IME 113L, or IME 1130L; and C- or better in PHY 133 or PHY 1520. Coreq: CHE 2301	1	
	CE 2061 Fluid Mechanics [FSpSu]	Prereq: C- or better in ME 214, ETT 210, CE 2041, ARO 2041, or ETM 2101.	3	GE Area C1 or GE Area C2 [FSp]	Prereq: Select either C1: Visual and Performing Arts or C2: Literature, Modern Languages, Philosophy and Civilization course	3	
			0	GE Area B2: Life Sciences [FSp]		2	
			0	GE Area C2: Literature, Modern Languages, Philosophy and Civilization [FSp]		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 [FSp]	Prereq: MFE 230, MFE 221, MFE 2010, or MFE 2211; and ME 218 or CE 2051.	3	Major Electives	Select from Curriculum Sheet	3	
	MFE 4501 Introduction to Computer Integrated Manufacturing and Automation [FSp]	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 Electives	Select from Curriculum Sheet	2	
	MFE 4501L Introduction to Computer Integrated Manufacturing and Automation Laboratory [FSp]	Coreq: MFE 4501.	1	IE 4290 Discrete System Simulation [FSp]	Prereq: IME 113 or IME 1130L; and IME 312, IME 314, or IME 3140. Coreq: IE 4290L.	2	
	IME 4150 Statistical Quality Control [FSp]	Prereq: IME 312, IME 314, or IME 3140. Coreq: IME 4150L .	2	IE 4290L Discrete System Simulation Laboratory [FSp]	Prereq: IME 113 or IME 1130L; and IME 312, IME 314, or IME 3140. Coreq: IE 4290.	1	
	IME 4150L Statistical Quality Control Laboratory [FSp]	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) [FSp]	Prereq: Lower division GE requirements in Areas A and B.	1	EGR 4820 Project Design Principles and Applications (B5) [SpSu]	Prereq: Lower division GE requirements in Areas A and B.	1	
	Major Electives	Select from Curriculum Sheet	2	EGR 4830 Project Design Principles and Applications (B5) [SpSu]	Prereq: Lower division GE requirements in Areas A and B.	1	
	IME 4030 Fiscal Implications in Technical Decision Making (B5, D4) [FSpSu]		3	IME 4020 Ethical Concepts in Technology and Applied Science (B5, C3) [FSpSu]	Prereq: Lower division GE requirements in Area A, at least two sub-areas in Area B, and at least two sub-areas in Area C.	3	
	<i>File an application to graduate</i>						
Semester Total Units			15	Semester Total Units		16	
						Total Units	128



CalPoly
Pomona