

Major: Industrial Engineering, B.S.: 127 units  
2018-2019 Academic Year

	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
<b>Year 1</b>	IME 1130L Industrial and Manufacturing Engineering Computations Laboratory		1	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 >=3, or AP Calc BC >=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	MFE 1260 Engineering Graphics I	Coreq: MFE 1260L.	1	
	EGR 1000 Engineering, Society, and You (E)		2	MFE 1260L Engineering Graphics I Laboratory	Coreq: MFE 1260	1	
	EGR 1000L Engineering, Society, and You Laboratory (E)		1	IME 2241 Industrial and Manufacturing Engineering Fundamentals	Coreq: IME 2241L	2	
	GE Area A1: Oral Communication		3	IME 2241L Industrial and Manufacturing Engineering Fundamentals Laboratory	Coreq: IME 2241	1	
			0	GE Area A2: Written Communication		3	
		<b>Total Units</b>	<b>15</b>		<b>Total Units</b>	<b>16</b>	

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<b>Year 2</b>	MFE 2010 Manufacturing Systems and Processes		2	MTE 2070 Materials Science and Engineering	Prereq: CHM 1210, CHM 1150, CHM 121, or CHM 115; PHY 131 or PHY 1510; PHY 131L or PHY 1510L; and MAT 116 or MAT 1150.	2	
	MFE 2010L Manufacturing Systems and Processes Laboratory		1	CE 2051 Mechanics of Materials	Prereq: C- or better in ME 214, ETT 210, CE 2041, ARO 2041, or ETM 2101.	3	
	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	MAT 2240 Elementary Linear Algebra and Differential Equations	Prereq: MAT 116 or MAT 1150.	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	IME 3140 Engineering Probability and Statistics	Prereq: MAT 115 or MAT 1150.	3	
	PHY 1520L Introductory Laboratory on Electromagnetism and Circuits	Coreq: PHY 1520	1	IE 2250 Fundamentals of Human Factors Engineering		2	
	MAT 2140 Calculus III	Prereq: MAT 116, MAT 214, MAT 1150, or MAT 1150C.	4	IE 2250L Fundamentals of Human Factors Engineering Laboratory		1	
	IME 2390 Industrial Costs and Controls		2	GE Area D2: U.S. Constitution and California Government		3	
						0	
	<b>Semester Total Units</b>		<b>16</b>	<b>Semester Total Units</b>		<b>17</b>	

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<b>Year 3</b>	IE 3270 Systems Engineering	Prereq: IME 224 or IME 2241; and MAT 116, MAT 214, MAT 215, MAT 224, or MAT 1150. Coreq: IE 3270L.	2	IE 4290 Discrete System Simulation	Prereq: IME 113 or IME 1130L; and IME 312, IME 314, or IME 3140. Coreq: IE 4290L.	2	<i>Graduation Writing Test must be taken before completion of 75 units.</i>
	IE 3270L Systems Engineering Laboratory	Prereq: IME 224 or IME 2241; and MAT 116 or MAT 1150. Coreq: IE 3270.	1	IE 4290L Discrete System Simulation Laboratory	Prereq: IME 113 or IME 1130L; and IME 312, IME 314, or IME 3140. Coreq: IE 4290.	1	
	CHE 2301 Process and Automation	Prereq: C- or better in PHY 133 or PHY 1520, and MAT 215 or MAT 2140.	2	Major Elective	Select from Curriculum Sheet	2	
	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	GE Area D3: Social Sciences: Principles, Methodologies, Value Systems, and Ethics		3	
	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	GE Area B2: Life Sciences		2	
	Major Elective	Select from Curriculum Sheet	2	GE Area C2a: Philosophy and Civilization		3	
	GE Area C1: Visual and Performing Arts		3	GE Area C2b: Literature and Language Other than English		3	
	GE Area D1: U.S. History American Ideals		3			0	
	<i>Take the Graduation Writing Test</i>						
	<b>Semester Total Units</b>			<b>17</b>	<b>Semester Total Units</b>		

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<b>Year 4</b>	IME 3311 Facilities Planning, Layout and Design	Prereq: IME 326 or IME 3261; and MFE 126 or MFE 1260.	3	IE 4360 Operations Planning and Control	Prereq: IE 327 or IE 3270; IE 416 or IE 4160; IME 326 or IME 3261; and IE 225 or IE 2250. Coreq: IE 4360L.	2	
	IE 4160 Operations Research I	Prereq: MAT 224 or MAT 2240.	3	IE 4360L Operations Planning and Control Laboratory	Prereq: IE 327 or IE 3270; IE 416 or IE 4160; IME 326 or IME 3261; and IE 225 or IE 2250. Coreq: IE 4360.	1	
	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	3	
	MFE 4501L Introduction to Computer Integrated Manufacturing and Automation Laboratory		1	IE 4170 Operations Research II	Prereq: IME 312, IME 314, or IME 3140.	3	
	IME 4150 Statistical Quality Control	Prereq: IME 312, IME 314, or IME 3140. Coreq: IME 4150L .	2	EGR 4820 Project Design Principles and Applications (B5)		1	
	IME 4150L Statistical Quality Control Laboratory	Prereq: IME 312, IME 314, or IME 3140.	1	EGR 4830 Project Design Principles and Applications (B5)		1	
	EGR 4810 Project Design Principles and Applications (B5)		1	IME 4020 Ethical Concepts in Technology and Applied Science (B5, C3)		3	
	IME 4030 Fiscal Implications in Technical Decision Making (B5, D4)		3			0	
	<i>File an application to graduate</i>						
<b>Semester Total Units</b>			<b>16</b>	<b>Semester Total Units</b>		<b>14</b>	
<b>Total Units</b>						<b>127</b>	