

## Electrical Engineering, B.S.: 125 units 2020-2021 Academic Year

	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
<b>Year 1</b>	GE Area A1: Oral Communication [FSP]		3	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	[ ] = Term Typically Offered F = Fall Sp = Spring Su = Summer e = even years o = odd years
	GE Area A2: Written Communication [FSp] (Success Marker)		3	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	
	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	PHY 1510L Newtonian Mechanics Laboratory (B3) [FSp]	Coreq: PHY 1510.	1	
	CHM 1150 General Chemistry for Engineers [FSp]	Prereq: C or better MAT 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, STA120, STA 1200, SAT Math $\geq$ 550, or	3	ECE 1310 C For Engineers [FSpSu]	Prereq: ECE Major; and MAT 1140 or MAT 114.	3	
	GE Area B2: Life Sciences [FSp]		2	ECE 1101 Electrical Circuit Analysis I [FSpSu]	Prereq: ECE Major; and MAT 1140 or MAT 114.	3	
			0	ECE 1101L Electrical Circuit Analysis I Laboratory [FSpSu]	Prereq: ECE Major; and MAT 1140 or MAT 114.	1	
	<b>Total Units</b>		<b>15</b>	<b>Total Units</b>		<b>15</b>	

Year 2	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
	MAT 2240 Elementary Linear Algebra and Differential Equations [FSpSu]	Prereq: MAT 116, MAT 1150, or MAT 1150C.	3	GE Area D1: U.S. History American Ideals [FSp]		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 2140 Calculus III [FSpSu]	Prereq: MAT 116, MAT 214, MAT 1150, or MAT 1150C.	4		
PHY 1520L Introductory Laboratory on Electromagnetism and Circuits [FSp]	Coreq: PHY 1520.	1	ECE 2101 Electrical Circuit Analysis II [FSpSu]	Prereq: ECE Major; ECE 109 or ECE 1101; MAT 224 or MAT 2240 ; PHY 133 or PHY 1520; and ECE 109L or ECE 1101L .	3		
ECE 2200 Introduction to Microelectronics Circuits [FSpSu]	Prereq: ECE Major; CHM 1210, CHM 1150, CHM 121, or CHM 115; and C- or better in ECE 1101, ECE 209, ECE 299, or ECE 2990.	3	ECE 2101L Electrical Circuit Analysis II Laboratory [FSpSu]	Prereq: ECE Major; and ECE 1101L, ECE 109L, ECE 207L, ECE 299L, or ECE 2990L.	1		
ECE 2300 Digital Logic Design [FSpSu]	Prereq: ECE Major; ECE 114 or ECE 1310; C- or better in ECE 1101, ECE 109, or ECE 299; and C- or better in ECE 109L, ECE 1101L, or ECE 299L.	3	ECE 2200L Introduction to Microelectronics Circuits Laboratory [FSpSu]	Prereq: ECE Major; ECE 1101L, ECE 109L, ECE 299L, or ECE 2990L; and C- or better in ECE 2200, ECE 220, or ECE 299.	1		
ECE 2300L Digital Logic Design Laboratory [FSpSu]	Prereq: ECE Major; ECE 1310 or ECE 114; ECE 1101, ECE 109, ECE 299, or ECE 2990; and ECE 1101L, ECE 109L, or ECE 299L.	1	ECE 3301 Introduction to Microcontrollers [FSpSu]	Prereq: ECE Major; ECE 2300 or ECE 204; and ECE 2300L or ECE 204L. Coreq: ECE 3301L.	3		
GE Area E: Lifelong Learning and Self-Development [FSp]	Recommend EGR 1000/L	3	ECE 3301L Introduction to Microcontrollers Laboratory [FSpSu]	Prereq: ECE Major; ECE 2300 and ECE 2300L or ECE 204 and ECE 204L. Coreq: ECE 3301.	1		
<b>Semester Total Units</b>		<b>17</b>	<b>Semester Total Units</b>		<b>16</b>		

	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
Year 3	GE Area C1: Visual and Performing Arts [FSp]		3	ECE 3200L Analog Microelectronics Laboratory [FSpSu]	Prereq: ECE Major; ECE 3200 or ECE 320; and ECE 2200L, ECE 220L, or ECE 299L.	1	<i>Graduation Writing Test must be taken before completion of 75 units.</i>
	GE Area D2: U.S. Constitution and California Government [FSp]		3	ECE 3250 Electromagnetic Fields [FSpSu]	Prereq: ECE Major; MAT 2140, MAT 2140C, or MAT 215; MAT 2240 or MAT 224; PHY 1520 or PHY 133; and C- or better in ECE 2200, ECE 220, or ECE 299.	3	
	ECE 3101 Signals and Systems [FSpSu]	Prereq: ECE Major; ECE 2101 or ECE 209.	3	ECE 3715 Probability, Statistics, and Random Processes for Electrical and Computer Engineers [FSpSu]	Prereq: ECE Major; MAT 2140, MAT 2140C, or MAT 215; and ECE 3101 or ECE 306.	3	
	ECE 3101L Signals and Systems Laboratory [FSpSu]	Prereq: ECE major, and ECE 2101 or ECE 209.	1	ECE 3810 Introduction to Power Engineering [FSpSu]	Prereq: ECE Major; and ECE 2101 or ECE 209.	3	
	ECE 3200 Microelectronic Devices and Circuits [FSpSu]	Prereq: ECE Major; C- or better in ECE 2101 or ECE 209; and C- or better in ECE 2200, ECE 220, or ECE 299.	3	GE Area C3: Arts and Humanities Synthesis [FSp]		3	
	ECE 3709 Control Systems Engineering [FSpSu]	Prereq: ECE Major; and ECE 2101 or ECE 209.	3	ECE 4064 Professional Engineering Practice [FSpSu]	Prereq: ECE Major; Junior or Senior standing; and completion of GWT*, CPU 4010*, or CPU 401*; and completion of all 1000 & 2000 level courses.	1	
	ECE 3709L Control Systems Engineering Laboratory	Prereq: ECE Major.	1			0	
	<i>Take the Graduation Writing Test</i>						
<b>Semester Total Units</b>		<b>17</b>	<b>Semester Total Units</b>		<b>14</b>		

Year 4	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
	GE Area C1 or GE Area C2 [FSp]	Select either C1: Visual and Performing Arts or C2: Literature, Modern Languages, Philosophy and Civilization course	3	GE Area C3: Arts and Humanities Synthesis [FSp]		3	
GE Area D3: Social Sciences: Principles, Methodologies, Value Systems, and Ethics [FSp]		3	GE Area D4: Social Science Synthesis [FSp]		3		
ECE 3810L Power Engineering Laboratory	Prereq: ECE Major, and ECE 3810 or ECE 310.	1	Major Electives	Select from Curriculum Sheet	4		
ECE 4705 Communication Systems [FSpSu]	Prereq: ECE Major; and ECE 3715 or ECE 315.	3	Major Electives	Select from Curriculum Sheet	4		
ECE 4705L Communication Systems Laboratory [FSpSu]	Prereq: ECE Major.	1	EGR 4830 Project Design Principles and Applications (B5) [SpSu]	Prereq: Lower division GE requirements in Areas A and B.	1		
EGR 4810 Project Design Principles and Applications (B5) [FSp]	Prereq: Lower division GE requirements in Areas A and B.	1			0		
EGR 4820 Project Design Principles and Applications (B5) [SpSu]	Prereq: Lower division GE requirements in Areas A and B.	1			0		
Major Electives	Select from Curriculum Sheet	3			0		
<i>File an application to graduate</i>							
<b>Semester Total Units</b>			<b>16</b>	<b>Semester Total Units</b>		<b>15</b>	
					<b>Total Units</b>	<b>125</b>	