

Chemistry, B.S. - American Chemical Society Subplan/Option: 120 units  
2019-2020 Academic Year

	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
<b>Year 1</b>	CHM 1210 General Chemistry I (B1) (Success Marker)	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	CHM 1220 General Chemistry II (B1) (Success Marker)	Prereq: C- or better in CHM 1210, CHM 122 or CHM 122B; and C- or better in CHM 1210L, CHM 122L or CHM122LB. Coreq: CHM 1220L.	3	
	CHM 1210L General Chemistry Laboratory I (B3) (Success Marker)	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- or better Coreq: CHM 1210.	1	CHM 1220L General Chemistry Laboratory II (B3) (Success Marker)	Prereq: C- or better in CHM 1210, CHM 122 or CHM 122B; and C- or better in CHM 1210L, CHM 122L or CHM122LB. Coreq: CHM 1220.	1	
	GE Area A2: Written Communication (Success Marker)		3	MAT 1150 Calculus II (B4) (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) (Success Marker)	Prereq: C or better in MAT 1050 and MAT 1060, or appropriate score on MDTP or ALEKS placement test.	4	PHY 1510 Introduction to Newtonian Mechanics (B1)	Prereq: C- or better in MAT 114 or MAT 1140. Coreq: PHY 1510L.	3	
	BIO 1150 Basic Biology (B2)	Coreq: BIO 1150L.	3	PHY 1510L Newtonian Mechanics Laboratory (B3)	Coreq: PHY 1510.	1	
	BIO 1150L Basic Biology Laboratory (B3)	Coreq: BIO 1150.	1	GE Area A1: Oral Communication		3	
	<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		
	CHM 3140 Organic Chemistry I	Prereq: C- or better in CHM 123 or CHM 1220; and C- or better in CHM 123L or CHM 1220L.	4	CHM 3150 Organic Chemistry II	Prereq: C- or better in CHM 3140, CHM 315, or CHM 315B.	3	
CHM 3140L Organic Chemistry Laboratory I	Prereq: C- or better in CHM 3140 or CHM 315; CHM 3140 can be concurrent.	1	CHM 3150L Organic Chemistry Laboratory II	Prereq: C- or better in CHM 3140L or CHM 318L; and CHM 316 or CHM 3150.	1		
MAT 2250 Linear Algebra with Applications to Differential Equations	Prereq: MAT 116, MAT 1150, or MAT 1150C.	4	CHM 2210 Quantitative Analysis	Prereq: C- or better in CHM 123 or CHM 1220; and CHM 123L or CHM 1220L. Coreq: CHM 2210L.	2		
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, PHY 1510B or PHY 1510. Coreq: PHY 1520L.	3	CHM 2210L Quantitative Analysis Laboratory	Prereq: C- or better in CHM 123 or CHM 1220, and C- or better in CHM 123L or CHM 1220L. Coreq: CHM 2210.	2		
PHY 1520L Introductory Laboratory on Electromagnetism and Circuits	Coreq: PHY 1520.	1	CHM 2910A Chemical Communication Activity	Prereq: C- or better in CHM 1220 or CHM 123, and C- or better in CHM 1220L or CHM 123L.	1		
GE Area A3: Critical Thinking		3	GE Area E: Lifelong Learning and Self-Development		3		
		0	GE Area D1: U.S. History American Ideals		3		
<b>Semester Total Units</b>		<b>16</b>	<b>Semester Total Units</b>		<b>15</b>		

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Year 3	CHM 3110 Classical Physical Chemistry	Prereq: CHM 123 or CHM 1220; MAT 116 or MAT 1150; PHY 133 or PHY 1520; and PHY 133L or PHY 1520L.	3	CHM 3120 Quantum Physical Chemistry	Prereq: CHM 123 or CHM 1220; MAT 116 or MAT 1150; PHY 133 or PHY 1520; PHY 133L or PHY 1520L; and MAT 216, MAT 224 or MAT 2250 can be concurrent.	3	<i>Graduation Writing Test must be taken before completion of 75 units.</i>
	CHM 3420 Spectroscopic Methods	Prereq: C- or better in CHM 221, CHM 2210 or CHM 221B; and C- or better in CHM 221L, CHM 2210L or CHM 221LB. Coreq: CHM 3420L.	1	CHM 3520L Physical Chemistry Laboratory	Prereq: C- or better in CHM 305, CHM 3040, CHM 3050, CHM 312, CHM 3110 or CHM 3120.	2	
	CHM 3420L Spectroscopic Methods Laboratory	Prereq: C- or better in CHM221, CHM 2210, or CHM221B; and CHM221L, CHM 2210L, or CHM221LB. Coreq: CHM 3420.	1	CHM 3440 Electroanalytical Methods	Prereq: C- or better in CHM 221B or CHM 2210; and C- or better in CHM 221LB or CHM 2210L. Coreq: CHM 3440L.	1	
	CHM 3430 Separation Methods	Prereq: C- or better in CHM 221, CHM 2210, or CHM 221B; and C- or better in CHM 221L, CHM 2210L, or CHM 221LB. Coreq: CHM 3430L.	1	CHM 3440L Electroanalytical Methods Laboratory	Prereq: C- or better in CHM 221B or CHM 2210; and C- or better in CHM 221LB or CHM 2210L. Coreq: CHM 3440.	1	
	CHM 3430L Separation Methods Laboratory	Prereq: C- or better in CHM 221, CHM 2210, or CHM 221B; and C- or better in CHM 221L, CHM 2210L, or CHM 221LB. Coreq: CHM 3430.	1	GE Area C1: Visual and Performing Arts		3	
	GE Area C2: Literature, Modern Languages, Philosophy and Civilization		3	GE Area D2: U.S. Constitution and California Government		3	
	GE Area B5: Science and Technology Synthesis		3	GE Area D3: Social Sciences: Principles, Methodologies, Value Systems, and Ethics		3	
	<i>Take the Graduation Writing Test</i>						
<b>Semester Total Units</b>			<b>13</b>	<b>Semester Total Units</b>		<b>16</b>	

	Fall		Units	Spring		Units	Comments
	Courses	Requirements/Comments		Courses	Requirements/Comments		
<b>Year 4</b>	CHM 4010 Inorganic Chemistry	Prereq: CHM 3110 and CHM 3120; or CHM 3040 and CHM 3050; or CHM 313 or CHM 305.	4	Option Required	CHM 4220 Organic Synthesis or CHM 4230 Physical Organic Chemistry or CHM 4240 Organic Analysis	2	
	CHM 3270 Biochemistry I	Prereq: C- or better in CHM 1220 or CHM 123; C- or better in CHM 1220L or CHM 123L; C- or better in CHM 316 or CHM 3150; C- or better in CHM 317L or CHM 3140L; and D or better in BIO 115, BIO 121, BIO 1150 or BIO 1210. Coreq: CHM 3270L.	3	Option Required	CHM 4220L Organic Synthesis Laboratory or CHM 4230L Physical Organic Chemistry Laboratory or CHM 4240L Organic Analysis Laboratory	2	
	CHM 3270L Biochemistry Laboratory I	Prereq: C- or better in CHM 1220, CHM 122, or CHM 123; C- or better in CHM 1220L, CHM 122L, or CHM 123L; C- or better in CHM 321, CHM 327, CHM 3210, or CHM 3270; C- or better in CHM 250L, CHM 317L, CHM 2010L, or CHM 3140L; D or better in BIO 115, BIO 121,	1	Option Elective	Select from Curriculum Sheet	3	
	Option Elective	Select from Curriculum Sheet	3	Option Elective	Select from Curriculum Sheet	3	
	GE Area C1 or GE Area C2	Prereq: Select either C1: Visual and Performing Arts or C2: Literature, Modern Languages, Philosophy and Civilization course	3	GE Area C3: Arts and Humanities Synthesis		3	
			0	GE Area D4: Social Science Synthesis		3	
	<i>File an application to graduate</i>						
	<b>Semester Total Units</b>		<b>14</b>	<b>Semester Total Units</b>		<b>16</b>	
					<b>Total Units</b>	<b>120</b>	