

**CHEMICAL ENGINEERING CURRICULUM 2020-21 with BIOMOLECULAR ENG. CONCENTRATION**

<b>Freshman Year</b>			
Fall Semester		Spring Semester	
ENGR 1020 Engr Disciplines & Skills	2	CHE 1300 Intro to Chemical Eng. <sup>2</sup>	3
CH 1010 General Chemistry	4	CH 1020 General Chemistry	4
ENGL 1030 Accelerated Composition	3	MATH 1080 Calc of One Variable II	4
MATH 1060 Calculus of One Variable I	4	PHYS 1220 Physics with Calculus I	3
General Education Requirement	3	Arts and Humanities/Social Science <sup>1</sup>	3
<i>Semester Totals:</i>	<b>16</b>	<i>Semester Totals:</i>	<b>17</b>
<b>Optional Summer Semester</b>			
CHE 1300 Intro to Chemical Eng. (online) <sup>4</sup>		3	
<b>Sophomore Year</b>			
CHE 2110 Mass and Energy Balances	4	CHE 2200 Chem Engr Thermodynamics I	3
CH 2230 Organic Chemistry	3	CHE 2300 Fluids/Heat Transfer	4
MATH 2060 Calc of Several Variables	4	CH 2240 Organic Chemistry	3
BIOL 1100 Prncpls of Biology (w/Lab) <sup>3</sup>	4	CH 2290 Organic Chemistry Lab <sup>4</sup>	1
Arts and Humanities/Social Science <sup>1</sup>	3	MATH 2080 Intro to Ord Diff Eqns	4
<i>Semester Totals:</i>	<b>18</b>	<i>Semester Totals:</i>	<b>15</b>
<b>Junior Year</b>			
CHE 3210 Chem Eng Thermodynamics II	3	CHE 3070 Unit Operations Lab I	3
CHE 3300 Mass Transfer/Separations	4	CHE 3190 Engineering Materials	3
PHYS 2210 Physics with Calculus II	3	BIOL 4340 Biochemistry Lab	2
Biochemistry Requirement <sup>5</sup>	3	BIOE 3020 Biomaterials	3
STAT 4110 Statistical Methods	3	Arts and Humanities/Social Science <sup>1</sup>	3
BMOL 4250 Biomolecular Engr	3	<i>Semester Totals:</i>	<b>15</b>
<i>Semester Totals:</i>	<b>19</b>		
<b>Optional Summer Semester</b>			
CHE 3070 Unit Operations Lab I		3	
CHE 3210 Chem Eng Thermodynamics II		3	
CHE 3300 Mass Transfer/Separations		4	
<b>Senior Year</b>			
CHE 4070 Unit Operations Lab II	3	CHE 3530 Process Dynamics/Control	3
CHE 4310 Chemical Process Design I	3	CHE 4330 Process Design II	3
CHE 4430 Safety, Env. & Prof. Prac. I	3	CHE 4440 Safety, Env. & Proc. Prac. II	1
CHE 4500 Chemical Reaction Engr	3	BMOL 4290 Bioprocess Engineering	3
BCHM 4310 Physical Biochemistry	3	Arts and Humanities/Social Science <sup>1</sup>	3
<i>Semester Totals:</i>	<b>15</b>	Engineering Requirement <sup>6</sup>	3
		<i>Semester Totals:</i>	<b>16</b>

**Total: 130 Hours**

Notes:

<sup>1</sup> See Policy on Social Sciences and Humanities for Engineering Curricula. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup> Must be passed with a grade of C or better.

<sup>3</sup> BIOL 1030, BIOL 1040, BIOL 1050, and BIOL 1060 may be substituted for BIOL 1100.

<sup>4</sup> CH 2270 and CH 2280 may be substituted for CH 2290.

<sup>5</sup> Select from BCHM 3010, BCHM 3050, BCHM 4230, or CH 3600.

<sup>6</sup> Select from CHE 4010 or BMOL 4030, BMOL 4270, BE 4280 or 4350, BIO 4400, 4490 or 4760, or MICR 4130

*Note:* No student may exceed two attempts, including a *W*, to complete successfully any CHE course.