

Example Program 3

Chemical and Biomolecular Engineering Degree - I/N Track

Students entering Fall 2020 with no Advanced Placement credits

Freshman Year / Fall

030.101	Intro to Chemistry I	3
030.105	Intro to Chemistry I Lab	1
110.108	Calculus I	4
171.101	General Physics I	4
173.111	General Physics Lab I	1
540.101	ChemBE Today	1
~~~~~	H/S Elective	3
<b>Total</b>		<b>17</b>

### Freshman Year / Spring

030.102	Intro to Chemistry II	3
030.106	Intro to Chemistry II Lab	1
110.109	Calculus II	4
171.102	General Physics II	4
~~~~~	H/S Elective	3
Total		15

Sophomore Year / Fall

540.202	Intro to Chemical & Biological Process Analysis	4
110.202	Calculus III	4
500.113	Gateway Computing	3
030.205	Organic Chemistry	4
Total		15

Sophomore Year / Spring

540.203	Engineering Thermodynamics	3
540.303	Transport I	3
110.302	Differential Equations with Applications	4
~~~~~	H/S Elective	3
~~~~~	Undesignated Elective	3
Total		16

* Students with this track must take: 030.305 Physical Chemistry Instrumentation Lab I

Junior Year / Fall

540.304	Transport II	4
~~~~~	Engineering Elective	3
540.490	Introduction to Chemical Process Safety	1
030.305	Physical Chem Instrumentation Lab 1*	3
020.305	Biochemistry	4
~~~~~	Undesignated Elective	3
Total		18

Junior Year / Spring

540.301	Kinetic Processes	4
540.306	Chemical and Biological Separations	4
661.315	Culture of the Engineering Profession	3
030.452	Materials and Surfaces	3
~~~~~	Undesignated Elective	3
<b>Total</b>		<b>17</b>

### Senior Year / Fall

540.311/3	Projects in ChemBE Unit Operations with Experiments	4
540.409	Dynamic Modeling and Control	4
~~~~~	I/N Engineering Elective	3
~~~~~	H/S Elective	3
<b>Total</b>		<b>14</b>

### Senior Year / Spring

540.314	Chemical and Biomolecular Product Design **	3
540.315	ChemBE Process Design Using ASPEN	2
~~~~~	I/N Engineering Elective	3
~~~~~	H/S Elective 300 level	3
~~~~~	Undesignated Electives	5
Total		16

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** Students may take the 3-credit Product Design course 540.314, the 3-credit Multidisciplinary Engineering Design 500.308 course, or they may take a 6-credit Product Design sequence of 540.309 and 540.310.