Example Program 1

Chemical and Biomolecular Engineering Degree - General Program

Students entering Fall 2022 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~~ *(Waived for AY 22-23)	1
~~	H/S Elective	3
~~	Optional HEART course or First-Year Seminar	1
	Total	**16-17**

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
~~	Differential Equations with Applications (110.302) or Linear Algebra and Differential Equations (553.291)	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
110.202	Calculus III	4
~~	H/S Elective	3
	Undesignated Elective	3
	Total	**16**

Junior Year / Fall		
540.304	Transport II	4
~~	Engineering Elective	3
540.490	Introduction to Chemical Process Safety	1
~~	Biochem or Phys Chem or Orgo Laboratory *	1 or 3
020.305	Biochemistry	3
~~	Undesignated Elective	3
	Total	**15-17**

Junior Year / Spring		
540.301	Kinetic Processes	4
540.306	Chemical and Biological Separations	4
661.315	Culture of the Engineering Profession	3
~~	Chem/Bio Elective	3
~~	Undesignated Elective	3
	Total	**17**

Senior Year / Fall		
540.311/313	Projects in ChemBE Unit Operations with Experiments	4
540.409	Dynamic Modeling and Control	4
~~	Engineering Elective	3
~~	H/S Elective	3
~~	Undesignated Electives	3
	Total	**17**

Senior Year / Spring		
540.314	Chemical and Biomolecular Product Design **	3
540.315	ChemBE Process Design Using ASPEN	2
~~	Engineering Elective	3
~~	H/S Elective 300 level	3
~~	Undesignated Electives	6
	Total	**17**

128-131

* Students with no track can choose one of the four labs: 030.225 Introductory Organic Chemistry Lab, 030.305 Physical Chemistry Instrumentation Lab I, 020.315 Biochemistry Project Lab, or 250.253 Protein Engineering and Biochemistry Lab.

** Students may take the 3-credit Product Design course 540.314, the 6-credit Product Design sequence of 540.309 and 540.310, or the 6-credit Multidisciplinary Engineering Design sequence of 660.345 and 660.346.