

**Example Program: Chemical and Biomolecular Engineering Degree
Molecular and Cellular Bioengineering Concentration**

Students entering Fall 2008 or later 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	Chemical and Biomol. Eng. in Workplace	1
H/S Elective		3
Total		17

Freshman Year/Spring

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

Sophomore Year/Fall

540.202	Intro. Chemical & Biological Process Analysis	4
540.490	Chemical and Biomolecular Lab Safety and Ethics*	1
110.202	Calculus III	4
020.305	Biochemistry	4
030.205	Organic Chemistry I	4
Total		17

Sophomore Year/Spring

540.203	Engineering Thermo	3
540.303	Transport I	3
110.302	Differential Equations with Applications	4
020.306	Cell Biology	4
Undesignated Electives		3
Total		17

Junior Year/Fall

540.204	Applied Physical Chem.	3
540.304	Transport II	4
020.315	Biochem Laboratory	2
540.305	Modeling and Stat Analysis for ChemBE.	3
H/S Elective		3
Total		15

Junior Year/Spring

540.301	Kinetic Processes	3
540.306	Chemical & Biological Separations	3
661.315	Culture of the Engineering Profession	3
Undesignated Elective		3
Advanced Chemistry Elective		2 or 3
Total		14 -15

Senior Year/Fall

540.313	Chemical Engineering Lab	6
540.409	Modeling Dynamics & Control for Chemical and Biological Systems	4
H/S Elective		3
Bioengineering Elective		3
Total		16

Senior Year/Spring

540.314	Chemical and Biomolecular Process Design	4
Bioengineering Elective		3
H/S Elective		3
Undesignated Electives		6 or 7
Total		16-17

*This course must be taken no later than the junior year. This course must be passed in order to be allowed to be involved in research in our department.