Biochemistry Option

Freshman Year	Credits	
	Fall	Spring
BCH 194 - Seminar/Workshop	1	
Please take one of the following:	4	
CHMY 141 - College Chemistry I & CHMY 142 - College Chemistry I Lab		
CHMY 151 - Honors College Chemistry I & CHMY 152 - Honors College Chemistry I Lab		
STAT 216Q - Introduction to Statistics	3	
University Core and Electives	7	
Please take one of the following:		4
CHMY 143 - College Chemistry II & CHMY 144 - College Chemistry II Lab		
CHMY 153 - Honors College Chemistry II & CHMY 154 - Honors College Chemistry II Lab		
M 161Q - Survey of Calculus[1] or M 171Q - Calculus I		4
BIOB 160 - Principles of Living Systems		4
University Core and Electives		3
Year Total:	15	15

Sophomore Year	Credits	
	Fall	Spring
Please take one of the following:	4	
CHMY 321 - Organic Chemistry I & CHMY 322 - Organic Chemistry I Lab		
CHMY 331 - Honors Organic Chemistry I & CHMY 332 - Honors Organic Chemistry I Lab		
Please take one of the following:		
PHSX 205 - College Physics I or PHSX 220 - Physics I with Calculus	4	
BIOB 260 - Cellular and Molecular Biology or CHMY 311 - Fundamental Analytical Chem	5	
University Core and Electives	3	
BCH 294 - Seminar/Workshop		1
CHMY 311 - Fundamental Analytical Chem[6] or BIOB 260 - Cellular and Molecular Biology		4
Please take one of the following:		4
CHMY 323 - Organic Chemistry II & CHMY 324 - Organic Chemistry II Lab		
CHMY 333 - Honors Organic Chemistry II & CHMY 334 - Honors Organic Chemistry II Lab		
PHSX 207 - College Physics II or PHSX 222 - Physics II with Calculus		4
University Core and Electives		3
Year Total:	16	16

Junior Year	Credits	
	Fall	Spring
Please take one of the following sequences:[2]	5-7	
CHMY 361 - Elements of Physical Chemistry & CHMY 362 - Elements of Physical Chemistry Lab		
OR		
CHMY 371 - Physical Chemistry-Quantum Chemistry and Spectroscopy I & CHMY 372 - Physical Chemistry Laboratory I & CHMY 373 - Physical Chemistry - Kinetics and Thermodynamics		
BCH 394 - Seminar/Workshop	1	
BCH 441 - Biochemistry of Macromolecules or BCH 442 - Metabolic Regulation	3	
BCH 490R - Undergraduate Research[3]	3	
BIOH 320 - Biomedical Genetics	3	
CHMY 490R - Undergraduate Research[3]		3
BCH 442 - Metabolic Regulation or BCH 441 - Biochemistry of Macromolecules		3
BCH 444R - Biochemistry & Molecular Biology Methods		3
Physical and Biological Science Electives[4]		3
University Core and Electives		3
Year Total:	15-17	15

Senior Year	Credits	
	Fall	Spring
Physical and Biological Science Electives[4]	3	
University Core and Electives	9	
BCH 494 - Seminar/Workshop		1
BCH 499 - Senior Thesis/Capstone[5]		(1)
BIOB 425 - Adv Cell & Molecular Biology		3
Physical and Biological Science Electives[4]		3
University Core and Electives		7 or 8
Year Total:	12	14-15
Total Program Credits:		**120**

1 If you want to take a full year of Physical Chemistry (CHMY 371, CHMY 372 and CHMY 373) then you will need to take M 171Q, M 172, and M 273(see footnote 2).

2 Students should consider taking the full year of Physical Chemistry sequence (CHMY 371 and CHMY 372 in the fall and CHMY 373 in the spring) instead of the one-semester overview, particularly if planning to go to graduate school. As noted in footnote 1, this sequence requires more calculus as prerequisite coursework.

3 Six (6) credits of Undergraduate Research BCH 490R are tabulated. Students are encouraged to fulfill additional credits of research up to a maximum of 12 credits of 490R research whether it be in CHMY, BCH, or another department.

4 A minimum of 9 credits of physical and biological science electives are required.

5 BCH 499 (Senior Year) is required for majors who are writing a thesis for Departmental Honors consideration.

6 CHMY 311 should be taken before CHMY 361 or CHMY 371

All students are encouraged to take a 200 level English writing course. Please note that this course would be in addition to the core requirement.

A minimum of 120 credits is required for graduation; 42 of these credits must be in courses numbered 300 and above.

Acceptable Physical and Biological Sciences Electives Include

BIOB 375	General Genetics	3
BIOB 410	Immunology	3
BIOB 420	Evolution	3
BIOB 424	Ethical Practice of Science	3
BIOB 425	Adv Cell & Molecular Biology	3
BIOB 428R	Molecular neurological disease	3
BIOB 430	Plant Biotechnology	3
BIOB 438	Developmental Mechanisms	3
BIOB 476R	Gene Construction	4
BIOB 480	Conservation Genetics	3
BIOB 484	Population Genetics	3
BIOH 320	Biomedical Genetics	3
BIOH 323	Human Developmental Biology	4
BIOH 405	Hematology	3
BIOH 406	Hematology Laboratory	1
BIOH 411	Advanced Human Anatomy	4
BIOH 422	Genes and Cancer	3
BIOH 425	Sensory Neurophysiology	3
BIOH 445	Introduction to Pharmacology	3
BIOH 458	Human Pathophysiology	3
BIOM 360	General Microbiology	5
BIOM 400	Medical Microbiology	3
BIOM 405	Host-Associated Microbiomes	3
BIOM 410	Microbial Genetics	3
BIOM 415	Microbial Diversity, Ecology, and Evolution	3
BIOM 419	Programming for Biologists	0,3
BIOM 421	Concepts of Plant Pathology	3
BIOM 425	Toxicology: Science of Poisons	3
BIOM 430	Applied and Environmental Microbiology	4
BIOM 431	Medical Bacteriology	3
BIOM 432	Med Bacteriology Lab	2
BIOM 435	Virology	3
BIOM 441	Eukaryotic Pathogens	4
BIOM 450	Microbial Physiology	3
BIOM 452	Soil & Envirnmntl Microbiology	3
BIOM 455R	Research Mthds in Microbiology	4
BIOM 465	Plant-Pathogen Interactions	3
BIOO 310	Comparative Vertebrate Anatomy	4
BIOO 412	Animal Physiology	3
BIOO 433	Plant Physiology	3
BIOO 437	Plant Development	3
BIOO 460	Plant Metabolism	3
CHMY 340	Environmental Chemistry	3
CHMY 401	Advanced Inorganic Chemistry	3
CHMY 421	Advanced Instrument Analysis	3
EBIO 438	Bioprocess Engineering	3
ENSC 466	Chemical Ecology	3
M 430	Mathematical Biology	3
NEUR 313	Neurophysiology	3
NEUR 425	Sensory Neurophysiology	3
NUTR 421	Macronutrient Metabolism	3
NUTR 422	Micronutrient Metabolism	3
NEUR 455	Molecular Medicine	3