John Carroll University Chemistry Department

B.S. Chemistry with Biochemistry Concentration Study Plan (2019 Bulletin)

First Year

Fall Semester	Credits	Major	Core	Other		Spring Semester	Credits	Major	Core	Other
CH141 General Chemistry I*	4	X				CH142 General Chemistry II*	4	X		
CH143 General Chemistry Lab I*	1	X				CH144 General Chemistry Lab II*	1	X		
MT135 Calculus / Analytic Geometry I	4	X				MT136 Calculus / Analytic Geometry II	4	X		
EN125 Seminar on Academic Writing	3		X			COMM125 Speech Communications	3		X	
BL155 Principles of Biology I	3	X				BL156 Principles of Biology II	3	X		
BL157 Principles of Biology Lab I	1	X				BL158 Principles of Biology Lab II	1	X		
Total Credit Hours	***16***					***Total Credit Hours***	***16***			

Second Year

Fall Semester	Credits	Major	Core	Other		Spring Semester	Credits	Major	Core	Other
CH221 Organic Chemistry I	3	X				CH222 Organic Chemistry II	3	X		
CH223 Organic Chemistry Lab I	1	X				CH224 Organic Chemistry Lab II	1	X		
PH125 General Physics I	3	X				CH261 Analytical Chemistry	3	X		
PH125L General Physics Lab I	1	X				CH263 Analytical Chemistry Lab (QA)	1	X	X	
Humanities Course	3		X			PH126 General Physics II	3	X		
Social Sciences Course	3		X			PH126L General Physics Lab II	1	X		
Creative and Performing Arts (CAPA)	1-3		X			BL213 Genetics***	4			X
Total Credit Hours	***15***					***Total Credit Hours***	***16***			

Third Year

Fall Semester	Credits	Major	Core	Other		Spring Semester	Credits	Major	Core	Other
CH363 Physical Chemistry I	3	X				CH366 Physical Chemistry II	3	X		
CH367 Physical Chemistry I Lab	2	X				CH436 Biochemistry II	3	X		
CH435 Biochemistry I	3	X				CH478 Chemistry Seminar	0	X		
CH437 Biochemistry Laboratory	1	X				Engaging the Global Community (EGC)	3		X	
Philosophy Knowledge/Reality (PLKR)	3		X			TRS Course	3		X	
Language Requirement	3		X			Language Requirement	3		X	
Total Credit Hours	***15***					***Total Credit Hours***	***15***			

Fourth Year

Fall Semester	Credits	Major	Core	Other		Spring Semester	Credits	Major	Core	Other
CH or BL Elective**	6	X				CH or BL Elective**	3	X		
Program or Career Elective	3	X	X	X		Linked Pair of Courses	6		X	
Issues in Social Justice Course (ISJ)	3		X			Program or Career Electives	6	X	X	X
Philosophy Values/Society (PLVS)	3		X							
TRS Course	3		X							
Total Credit Hours	***18***					***Total Credit Hours***	***15***			
If you are planning to attend graduate school or a health professions program, take the GRE or MCAT in summer between years 3 and 4 and begin submitting applications this fall.										

Total CH Credit Hours Required: 42 Total Credit Hours Required to Graduate: 120

Notes:

* Well prepared students may substitute the CH141-144 sequence with CH151/153 - Chemical Principles and Lab in the Fall Semester

PS426 and others by petition.

***BL213 Genetics does not count as a CH upper division elective but is required for the MCAT exam taken by pre-medical students.

CH398, or CH399D (with 3 credits of CH399). One of these should be taken in the senior year.

*Please consult your academic advisor to address specific needs of your major, minor, and/or concentration.