

# John Carroll University Chemistry and Biochemistry Department

## Biochemistry Concentration with Case/Anesthesia Study Plan

### First Year

Fall Semester	Credits	Major	Core	Minor/Other	Spring Semester	Credits	Major	Core	Minor/Other
CH1410 General Chemistry I*	4	X			CH1420 General Chemistry II*	4	X		
CH1430 General Chemistry Lab I*	1	X			CH1440 General Chemistry Lab II*	1	X		
MT1350 Calculus / Analytic Geometry I	4	X			MT1360 Calculus / Analytic Geometry II	4	X		
EN1250 Seminar on Academic Writing*	3		X		Engaging the Global Community (EGC)*	3		X	
BL1500 Principles of Biology I	3	X			BL1600 Principles of Biology II	3	X		
BL1505 Principles of Biology Lab I	1	X			BL1605 Principles of Biology Lab II	1	X		
CO1251 Speech Communications	3		X		TRS Course	3		X	
					Creative and Performing Arts (CAPA)	1-3			
<b>Total Credit Hours</b>	<b>19***</b>				<b>Total Credit Hours</b>	<b>19***</b>			

### Second Year

Fall Semester	Credits	Major	Core	Minor/Other	Spring Semester	Credits	Major	Core	Minor/Other
CH2210 Organic Chemistry I	3	X			CH2220 Organic Chemistry II	3	X		
CH2230 Organic Chemistry Lab I	1	X			CH2240 Organic Chemistry Lab II	1	X		
PH1250 General Physics I	3	X			CH2610 Analytical Chemistry	3	X		
PH1251 General Physics Lab I	1	X			CH2630 Analytical Chemistry Lab (QA)	1	X	X	
PS100	3		X		PH1260 General Physics II	3	X		
BL2130 Genetics	4		X		PH1261 General Physics Lab II	1	X		
Creative and Performing Arts (CAPA)	1-3		X		Linked Pair of Courses	6		X	
TRS Course	3		X						
<b>Total Credit Hours</b>	<b>18</b>				<b>Total Credit Hours</b>	<b>18</b>			

### Third Year

Fall Semester	Credits	Major	Core	Minor/Other	Spring Semester	Credits	Major	Core	Minor/Other
CH3630 Physical Chemistry I	3	X			BL2320/2325 Human A&P 2/Lab	4			X
CH3670 Physical Chemistry I Lab	2	X			CH4360 Biochemistry II	3	X		
CH4350 Biochemistry I	3	X			CH4780 Chemistry Seminar	0	X		
CH4370 Biochemistry Laboratory	1	X			Humanities Course	3		X	
Philosophy Knowledge/Reality (PLKR)	3		X		Philosophy/Values?Society (PLVS)	3		X	
Language Requirement	3		X		Language Requirement	3		X	
BL2310/15 Human A&P 1/Lab	4				Social Science Course	3		X	
<b>Total Credit Hours</b>	<b>19***</b>				<b>Total Credit Hours</b>	<b>19***</b>			

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 of 112 credits. 8cr transfer back to from Partner School**

**Notes:**

\*Well prepared students may substitute the CH1410-1440 sequence with CH1510/1530 - Chemical Principles and Lab in the Fall Semester

4710 and PS4260 and others by petition

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.

\*\*\*Going beyond 18 credits in a semester incurs a fee per credit hour.