

## John Carroll University Chemistry Department

### Biochemistry Concentration with Physician Assistant Study Plan (2017-2019 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		CO125 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		
Creative and Performing Arts (CAPA)	1-3		X		TRS Course	3		X	
								X	
<b>Total Credit Hours</b>	<b>17</b>				<b>Total Credit Hours</b>	<b>19***</b>			

#### 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	
PS100 (ISJ)	3		X		PH126 General Physics II	3	X		
BL230 Human Anatomy and Physiology I	3			X	PH126L General Physics Lab II	1	X		
Lab	1			X	BL231 Human Anatomy and Physiology I	3			X
TRS Course	3		X		Lab	1			X
					Philosophy Knowledge/Reality (PLKR)	3		X	
<b>Total Credit Hours</b>	<b>18</b>				<b>Total Credit Hours</b>	<b>19***</b>			

#### Third Year

Fall Semester	Credits	Major	Core	Other	Spring Semester	Credits	Major	Core	Other
CH363 Physical Chemistry I	3	X			CH367 Physical Chemistry I Lab	2	X		
CH Elective	3	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	
Linked Pair of Courses	6		X		Humanities Course	3		X	
Language Requirement	3		X		Philosophy Values/Society (PLVS)	3		X	
					Language Requirement	3		X	
					Social Science Course	3		X	
<b>Total Credit Hours</b>	<b>19***</b>				<b>Total Credit Hours</b>	<b>20***</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 JCU from Partner School.**

**Notes:**

\* Well prepared students may substitute the CH141-144 sequence with CH151/153 - Chemical Principles and Lab in the Fall Semester and PS426 and others by petition.  
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.