## John Carroll University Chemistry and Biochemistry Department Biochemistry Concentration with Physician Assistant Study Plan

First Year										
Fall Semester	Credits	Major	Core	Minor/Other		Spring Semester	Credits	Major	Core	Minor/Other
CH1410 General Chemistry I*	4	Х				CH1420 General Chemistry II*	4	Х		<u>                                     </u>
CH1430 General Chemistry Lab I*	1	Х				CH1440 General Chemistry Lab II*	1	Х		
MT1350 Calculus / Analytic Geometry I	4	Х				MT1360 Calculus / Analytic Geometry II	4	Х		<u>                                     </u>
EN1250 Seminar on Academic Writing	3		Х			COM1251 Speech Communications	3		Х	
BL1500 Principles of Biology I	3	Х				BL1600 Principles of Biology II	3	Х		
BL1505 Principles of Biology Lab I	1	Х				BL1605 Principles of Biology Lab II	1	Х		<u> </u>
Creative and Performing Arts (CAPA)	1-3		Х			TRS Course	3		Х	
Total Credit Hours	17					Total Credit Hours	19***			<u> </u>
Second Year										
Fall Semester	Credits	Major	Core	Minor/Other		Spring Semester	Credits	Major	Core	Minor/Other
CH2210 Organic Chemistry I	3	Х				CH2220 Organic Chemistry II	3	Х		ļ
CH2230 Organic Chemistry Lab I	1	Х				CH2240 Organic Chemistry Lab II	1	Х		
PH1250 General Physics I	3	Х				CH2610 Analytical Chemistry	3	Х		<u> </u>
PH1251 General Physics Lab I	1	Х				CH2630 Analytical Chemistry Lab (QA)	1	Х	Х	
PS1000 Perspectives Social Justice (ISJ)	3		Х			PH1260 General Physics II	3	Х		
BL2310/15 Human Anatomy&Physio+Lab	4			х		PH1261 General Physics Lab II	1	Х		1
TRS Course	3		Х			BL2320/25 - Human A&P + Lab	4			Х
						Philosophy Knowledge/Reality (PLKR)	3		Х	1
Total Credit Hours	18					Total Credit Hours	19***			1
				Th	irc	Year		_	_	
Fall Semester	Credits	Major	Core	Minor/Other		Spring Semester	Credits	Major	Core	Minor/Other
CH3630 Physical Chemistry I	3	Х				CH4360 Biochemistry II	3	Х		1
CH Elective	3	Х				CH4780 Chemistry Seminar	0	Х		
CH4350 Biochemistry I	3	Х				Engaging the Global Community (EGC)	3		Х	1
CH4370 Biochemistry Laboratory	1	Х				Humanities Course	3		Х	
Linked Pair of Courses	6		Х			Philosophy/Values/Society (PLVS)	3		Х	
Language Requirement	3		Х			Language Requirement	3		Х	
						Social Science Course	3		Х	1
						CH3670 Physical Chemistry I Lab	2	Х		
Total Credit Hours	19***					Total Credit Hours	20***			1
If you are planning to attend graduate school take the GRE or MCAT in summer between										
applications this fall.	n years s	anu 4 a	inu beţ	gin submitting						
	of 112	credit	s. 8	credits trans	sfe	r back to JCU from partner school	i.			
Notes:										
471 and PS426 and others by petition	1000)			and disc table						
CH399 or CH3994 (with three credits of CH	1399). U	ne or th	ese sn	ouid be taken I	11 (1	le sellior year.				

CH399 or CH3994 (with three 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.