

# John Carroll University Chemistry & Biochemistry Department

## B.S. Chemistry and Study Abroad 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		COM1251 Speech Communications	3		X	
TRS 1XX or 2XX Course	3		X		Philosophy Values/Society (PLVS)	3		X	
<b>Total Credit Hours</b>	<b>15</b>				<b>Total Credit Hours</b>	<b>15</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	
Engaging the Global Community (EGC)	3		X		PH1260 General Physics II	3	X		
Language Requirement	3		X		PH1261 General Physics Lab II	1	X		
Creative and Performing Arts (CAPA)	1-3		X		Language Requirement	3		X	
<b>Total Credit Hours</b>	<b>15</b>				<b>Total Credit Hours</b>	<b>15</b>			

### Third Year

Fall Semester	Credits	Major	Core	Minor/Other	Spring Semester	Credits	Major	Core	Minor/Other
CH3630 Physical Chemistry I	3	X			a CH/BL elective	14	X	x	x
CH3670 Physical Chemistry I Lab	2	X							
CH3991 Undergraduate Research	1	X							
Philosophy Knowledge/Reality (PLKR)	3		X						
TRS 3XX Course	3		X						
Issue in Social Justice Course (ISJ)	3		X						
<b>Total Credit Hours</b>	<b>15</b>				<b>Total Credit Hours</b>	<b>14</b>			

### Fourth Year

Fall Semester	Credits	Major	Core	Minor/Other	Spring Semester	Credits	Major	Core	Minor/Other
CH4410 Instrumental Analysis	3	X			CH Elective	3	X		
CH4430 Instrumental Analysis Lab**	2	X			CH3994 Undergraduate Research	1	X		
CH3993 Undergraduate Research	1	X			CH4780 Chemistry Seminar	0	X		
Humanities Course	3		X		Career or Program Electives	6	X	X	
Social Sciences Course	3		X		Linked Pair of Courses	6		X	
CH Elective or Career Elective	3	X	X						
<b>Total Credit Hours</b>	<b>15</b>				<b>Total Credit Hours</b>	<b>16</b>			

If you are planning to attend graduate school, take the GRE in summer after 3rd year 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 CH1410-1440 sequence with CH1510/1530 - Chemical Principles and Lab in the Fall Semester

\*\* CH4430 will satisfy the Core Requirements for Capstone, Advanced Writing and Oral Presentation within the major (CAP, AW, OP).

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