

John Carroll University Department of Biology

BS Cell & Molecular Biology Sample Study Plan 2023–2024 Bulletin; <https://jcbulletin.coursedog.com/programs/BLC.BS>

First Year

Fall Semester	Credits	Major	Core	Minor/ Other	Spring Semester	Credits	Major	Core	Minor/ Other
BL1500 Principles of Biology I	3	X			BL1600 Principles of Biology II	3	X		
BL1505 Principles of Biology I Lab	1	X			BL1605 Principles of Biology II Lab	1	X		
CH1410 General Chemistry I	4	X			CH1420 General Chemistry II	4	X		
CH1430 General Chemistry Lab I	1	X			CH1440 General Chemistry II Lab	1	X		
EN1250 Seminar on Academic Writing	3		X		COM1251 Speech Communication	3		X	
CORE	3		X		CORE	3		X	
Total Credit Hours	15				Total Credit Hours	15			

Second Year

Fall Semester	Credits	Major	Core	Minor/ Other	Spring Semester	Credits	Major	Core	Minor/ Other
BL2130 Genetics or CMB Elective*	3	X			BL2130 Genetics or CMB Elective*	4	X		
CH2210 Organic Chemistry I	3	X			CH2220 Organic Chemistry II	3	X		
CH2230 Organic Chemistry I Lab	1	X			CH2240 Organic Chemistry II Lab	1	X		
MT1350 Calculus & Analytic Geometry I or DATA 2500 Intermediate Statistics with SPSS	4	X	X		DATA2280 Statistics-Biological Science	3	X	X	
CORE	3		X		PS 1010 or PS 1000 Intro to Psychology	3	X		
					CORE	3		X	
Total Credit Hours	15–16				Total Credit Hours	14–17			

Third Year

Fall Semester	Credits	Major	Core	Minor/ Other	Spring Semester	Credits	Major	Core	Minor/ Other
PH1250 General Physics I	3	X			PH1260 General Physics II	3	X		
PH1251 General Physics I Lab	1	X			PH1261 General Physics II Lab	1	X		
CH4310 or CH4350 Biochemistry	3	X			BL4650 Molecular Genetics	3	X		
CH4370 Biochemistry Lab	1	X			BL4700 or BL2150/2155	3			
CORE LINKED pair	6		X		SC1010	3			
Total Credit Hours	14				Total Credit Hours	13			

Fourth Year

Fall Semester	Credits	Major	Core	Minor/ Other	Spring Semester	Credits	Major	Core	Minor/ Other
CMB Elective	3–4	X			CMB Elective	3–4	X		
BL4590 Molecular Cell Biology	3	X			CMB Elective	3–4	X		
CORE	3		X		CORE	3		X	
CORE	3		X		CORE	3		X	
CORE	1–3		X		CORE	3		X	
Total Credit Hours	15				Total Credit Hours	15+			

Students not taking a gap year should plan to take the MCAT in the spring semester of year 3, and prepare med school applications in the summer between years 3 and 4. The GRE or other standardized exams should be taken in the summer between years 3 and 4 for applications in year 4.

If you plan to take the MCAT in spring of year 3, consider taking a lighter load of 12-14 credits that semester. Most medical schools require two semesters of English, so consider CORE options that will fulfill this requirement.

Total Credit Hours Required for Major: 62–70

Total Credit Hours Required to Graduate: 120

Notes:

The CMB major includes 62–70 credit hours of required courses.

Students must earn B- or better in BL2130 (Genetics) or have instructor permission in order to take BL4509, BL4650, and BL4700, and to be declared a CMB major.

The CMB electives must also be used to meet the Additional Writing (AW), Capstone (C), and Oral Presentation (OP) requirements in the major; an individual class may count for multiple categories.

IF CH4350 and CH4360 are taken (CH4360 as an elective), then this will also result in a Chemistry Minor.

*CMB Electives: BL1700/1705; BL2150; BL2950; BL3010; BL3020; BL3100; BL3990; BL4100; BL4700; BL4710; BL4750; CH4360

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

*BL1700/1705 is a CMB elective that affords the opportunity to major in Biology if career plans change; it is a pre-req for upper-division biology courses.