Biochemistry Major- Model Plan[1,2]

Year	Fall Semester	Spring Semester
First	**CHEM 140 General Chemistry** **MATH 151 Calculus I[3,4] or MATH 141 Pre-Calculus[3,4]** **or** BIOL 150[5] ILA English 110 or Comm 101	**CHEM 220 Intro to Analytical Chemistry** **MATH 152 Calculus II or MATH 151** **BIOL 200 Cell Biology** English 110 or Comm 101
Second	**CHEM 228** Organic Chemistry I **PHYS 130** Physics I (***MATH 151*** Calculus I, if not earlier) (*BIOL 150*, if not earlier*)* *GP*	**CHEM 230** Organic Chemistry II **PHYS 132** Physics II (***MATH 152*** Calculus II, if not earlier) ***(BIOL 200***, if not earlier*)*
Third	**BIOL 202 Genetics** **BIOC 330 Biochemistry** **CHEM 350 Science Seminar[6]** Reflections or Art Requirement Language	**CHEM 350 Science Seminar[6]** **BIOC 390 Advanced Biochemistry** **BIOL 354 Molecular Biology[7]** Reflections or Art Requirement Language
Fourth	**CHEM 312 Physical Chemistry I** **BIOC 430 Research[8] (0.25)** **CHEM 350** Science Seminar[6] **Science Elective** (Advanced Course)[9]	**BIOC 430 Research[8] (0.25)** **CHEM 350 Science Seminar[6]** Science Elective (Advanced Course)[9] Citizenship

Legend

Courses in **bold** indicate major requirements.

Underline indicates that the course must be taken in sequence.

Notes:

1. **Incoming students** interested in a Biochemistry Major must begin their first semester in CHEM 140, General Chemistry, and are encouraged to discuss their schedule with a faculty member in the Biology or Chemistry Departments before the end of the first week of the Fall Semester. Students who have AP Chemistry credit must talk to a Chemistry Department faculty member to discuss placement in the correct course.
2. Incoming students should start the MATH courses or the BIOL courses in their first year. Biochemistry majors requiring 2 semesters of language usually **do not** take their Modern Foreign Language (MFL) requirement until much later (their third or fourth year). Biochemistry majors may also take Communications 101 later than the first year.
3. Students are highly encouraged to complete the calculus requirement as soon as possible. Calculus I (MATH 151) is a pre/co-requisite for Physics I (PHYS 130) and both Calculus I and II and Physics I and II are prerequisites for Physical Chemistry I (CHEM 312).
4. Students who have a 26 or above on the Math ACT should start in Calculus I (MATH 151). Other students may be capable of beginning in Calculus I (MATH 151); please consult a member of the Mathematics Department to take the placement test.
5. BIOL 150 is highly recommended but not required for the biochemistry major. Any biochemistry major planning on a health career (medicine, dentistry, etc.) must take BIOL 150. Students planning on a health career should take BIOL150 in the fall semester of the first year instead of a math class.
6. Students are required to participate in 4 semesters of science seminar that is non-credit bearing. Two semesters must overlap with their participation in research.
7. Molecular biology and Molecular Biology lab are offered in the Spring semester of even number years (Spring 2016, Spring 2018).
8. Research is an option for all biochemistry majors beginning in their second year. BIOC 430 or CHEM 430 must be taken for a minimum of 2 semesters at 0.25 credits each semester. One of these semesters must be during the senior year. Students have the option of taking 0.5 credits of research if they plan to spend more time in the research laboratory.
9. Biochemistry majors are required to take one elective upper-level science course. Courses particularly appropriate for the biochemistry major are Microbiology (BIOL 302, offered in alternate years: Fall 2016, Fall 2018), Instrumental Chemistry and Integrated Lab (Fall semester, CHEM 340 and CHEM 325), or Physical Chemistry II (CHEM 322). Students should consult with faculty to determine the advanced classes that are most appropriate.

Revised Sept. 2014 by Laura Moore. (lmoore@monmouthcollege.edu)