

## Biochemistry Major- Model Plan<sup>1,2</sup>

Year	Fall Semester	Spring Semester
First	<u>CHEM 140</u> General Chemistry (4) <u>MATH 151</u> Calculus I <sup>3,4</sup> (4) or MATH 141 Pre-Calculus <sup>4</sup> (4) or <u>BIOL 150</u> (4)	<u>CHEM 220</u> Intro to Analytical Chemistry (3) <u>CHEM 225</u> Intro. to Analytical Chemistry Lab (2) <u>MATH 152</u> Calculus II or MATH 151 (4) <u>BIOL 200</u> Cell Biology (4)
Second	<u>CHEM 228</u> Organic Chemistry I (4) <u>PHYS 130</u> Physics I (4) ( <i>MATH 151</i> Calculus I, if not earlier) ( <i>BIOL 150</i> , if not earlier)	<u>CHEM 230</u> Organic Chemistry II (4) <u>PHYS 132</u> Physics II (4) ( <i>MATH 152</i> Calculus II, if not earlier) ( <i>BIOL 200</i> , if not earlier)
Third	BIOL 202 Genetics (4) BIOC 330 Biochemistry (3) BIOC 335 Biochemistry Lab (1) BIOC 350 Science Seminar (1)	BIOC 350 Science Seminar (1) BIOL 354 Molecular Biology (3) <sup>5</sup> BIOL 355 Molecular Biology Lab (2) <sup>5</sup>
Fourth	CHEM 312 Physical Chemistry I (4) BIOC 430 Research <sup>6</sup> (1-3) BIOC 350 Science Seminar (1) Elective (Advanced Course) <sup>7</sup> (3)	BIOC 430 Research <sup>6</sup> (1-3) BIOC 350 Science Seminar (1) Elective (Advanced Course) <sup>7</sup>

### Legend

Underline indicates that the course must be taken in sequence.

Credit hours are in parentheses.

### Notes:

- 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.
- Incoming students should start the MATH courses or the BIOL courses in their first year. Biochemistry majors usually **do not** take their Modern Foreign Language (MFL) requirement until their second or third year.
- 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).
- Students who have had a pre-calculus or calculus course should start in at least Calculus I (MATH 151). Other students with a good math background, including trigonometry, may begin in Calculus I (MATH 151); please consult a member of the Chemistry or Mathematics Department to help make this decision.
- Molecular biology is offered in the Spring semester of even number years (Spring 2008, Spring 2010).
- 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 3 semester hours of credit for graduation.
- 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 2010, Fall 2012), Advanced Analytical Chemistry (Fall semester, CHEM 340 and CHEM 325), Bioinformatics (BIOC 300, offered in alternate years, Spring 2009, Spring 2011) or Physical Chemistry II (CHEM 322). Students should consult with faculty to determine the advanced classes that are most appropriate.

Prepared March 2008 by Laura Moore. ([lmoore@monm.edu](mailto:lmoore@monm.edu))