

## Guidelines for First- and Second-Year students considering a major in Biochemistry, Biophysics, and Molecular Biology (BBMB)

BBMB draws on three different areas of science – Chemistry, Biology, and Physics, so it's a highly structured major with lots of requirements. The advanced BBMB required classes have 100- and 200-level prerequisites in math, physics, chemistry, and biology. To complete the BBMB major in 4 years, you **must** complete those 100- and 200-level prerequisites in your first 2.5 years at Whitman. The purpose of this info sheet is to spell those introductory/prerequisite requirements out so you get started on those classes ASAP.

Regardless of what major you choose, remember to consult the College Catalog (“course catalog”) for details on any major program, its requirements, and information on individual classes. Also, the catalog spells out all of the college's General Studies (“Distribution”) requirements. The course catalog is *The Ultimate Advisor*: it knows *everything* you truly need to know to graduate, and all of the information in it is accurate. Consult it frequently to map out your course of study for graduation and to choose your classes.

### Advice in a nutshell:

BBMB requirements can be broken down into two categories. The first is a set of 100- and 200-level classes taken in Math, Physics, Chemistry, and Biology. These are prerequisites you need before you can take the more advanced 300- and 400-level BBMB courses. More advanced BBMB requirements are all described in the *BBMB Majors' Handbook* (a pdf available on the BBMB website) and in the course catalog.

**The key** to completing Whitman's BBMB major in 4 years is to ***complete the classes listed below by the end of the fall semester of your junior year*** (or before you go abroad - whichever comes first).

### **Math 125, 126, and 225** (Calculus I, II, and III)

- **Heads up #1!** Do not delay taking these Math classes if you are interested in BBMB: they are prerequisites for introductory and advanced Physics classes required for BBMB (e.g., Physics 156).
- If you had calculus in high school you may be able to skip 1 or 2 of these classes by passing a placement exam offered by the Math Department (see their website for more info on that exam).

### **Physics 145 or 155**, and **Physics 156** (General Physics with labs; labs are 2 afternoons per week)

- **Heads up #2!** You **must** take Physics 156, because Physics 156 is a prerequisite for BBMB 324 (Biophysics). Note that Math 125 (Calc I) is a pre-requ for Physics 155-156. You can start w/ Phys 145, but do not take Phys 146 – although named “General Physics with Applications in the Life Sciences”, Physics 146 is inadequate for BBMB (we in BBMB apologize for the Physics Dept's ill-advised intro class names!).
- **Heads up #3!** Physics 155-156 starts in *Spring semester*, with Physics 156 offered only in the Fall. You **must** start this series by the spring semester of your 2nd year in order to finish a BBMB major in four years.

### **Chemistry 125 & 126; or Chem 140** (General Chem & labs) and **Chemistry 245, 246, 251 & 252** (Organic Chem & labs) .

- **Heads up #4!** It's best to start Chem 125/126 right away in your 1<sup>st</sup> year, because it is a prerequisite for Biology and other Chemistry classes.
- Chem 140 is a more advanced, faster-moving version of intro chemistry, squeezed into 1 semester. Chemistry offers a placement exam for it (see their website for more information).
- Chem 245, 246 and orgo labs should be completed by the 1<sup>st</sup> semester of junior year, because they are prerequisites for BBMB325 and 335 (Biochemistry & lab).

### **Biology 111** (Biological Principle & lab) **and** **Biology 205** (Genetics, *without* lab).

- You **must** start taking Chemistry classes before taking Biology classes, because Chem 125 (or Chem 140) is a prerequisite for Bio 111, and both Chem 125 & 126 (or Chem 140) are prerequisites for Bio 205.
- Most BBMB and Biology majors *start* taking biology classes in their 2<sup>nd</sup> year; Bio205 can be taken junior year
- Genetics Lab (Biol 206) is separate from Genetics class and is not intended for BBMB majors.