

The Biology department accepts an AP score of 5 for credit and placement in Biology. To receive that credit, one Biology course with laboratory (Biology 001 or Biology 002, or any Biology course numbered 010-050) is required. If you take both Biology 001 and 002, you lose your AP credit.

Why should I take Biology 001 and/or Biology 002 if I have AP Biology Credit?

- Biology 001 and 002 form the foundation for the Biology major. All other courses are based on the assumption that students have experienced the lecture and laboratory aspects of at least one of these courses.
- Faculty in Biology team teach in Biology 001 and 002. Four faculty lecture in Biology 001; four different faculty lecture in Biology 002. Once you have completed the Biology 001 and 002 sequence, you are familiar with 8 of the 12 Biology faculty members and their areas of interest. There are 5 laboratory instructors also who teach in the laboratory sections. These individuals have advanced degrees or advanced research experience and are also great resources to students.
- Both laboratory courses emphasize scientific writing in a manner that is very different from most high school science laboratories and both courses are “W” courses. Lab reports are written up in the format of a formal scientific paper: title, abstract, introduction, materials & methods, results, discussion, acknowledgements and literature cited. Drafts of lab reports are critiqued by writing associates before a final draft is graded by faculty. We believe that by writing in this manner, students learn to think critically about biology and also learn the importance of experimental design.
- Laboratory experiments are outlined in laboratory manuals, but the actual protocols and design require input from student teams. Thus, students are actively involved in designing protocols and discussing how to execute the experiment. In some cases, there are choices as to what hypothesis to test and which kinds of methods are best suited to test them.
- Both courses consider the impact that people have on biology and that biology has on society. As courses for both majors and non-majors, we take our charge to educate all students about the importance of biology seriously. Lectures, discussions and sometimes written papers allow students the opportunity to apply the concepts and experiences they have had in the lecture and laboratory to real life situations.
- Biology 002 brings an emphasis on statistical analysis – *e.g.*, when is a result really significant? Different methods of understanding variance in natural populations are explored and discussed.
- Most of the students enrolled in Biology 001 and 002 are first-year students. You will have a chance to meet your classmates – the ones with whom you may be studying Biology for four years. Biology is a very social field and the department at Swarthmore is particularly people-centered. Students who ‘skipped’ Biology 001 and 002 noted later that they did not know as many faculty, lab instructors or other students as their counterparts who had taken at least one of the introductory courses.

If I only want to take one of them and use my AP credit for the other, which one should I take?

The answer to this question is based on many different factors:

- Is there a particular area of biology that you wish to pursue? If it falls into the Biology 001 realm, then Biology 001 would be recommended. Similar arguments would support a more “Bio 002” area.
- Perhaps your high school curriculum emphasized one area more than the other and you would like to “fill in” your foundation. Then take the other.
- If you are interested in research in a particular area, be sure to take the course in which you become acquainted with the foundation for that area and also faculty members whose research matches your general area of interest (or who may know someone at another institution who would provide a summer internship opportunity).

Biology 001 is Cellular and Molecular Biology, focusing on genetics, biochemistry, cell (both prokaryotic and eukaryotic), neurobiology and developmental biology, with an emphasis on molecular interactions.

Biology 002 is Organismal and Population Biology, focusing on evolution, ecology and the diversity of organisms, their form and function as individuals, within and between groups.

Even if you know you are not going to major in Biology, take the opportunity to enhance your knowledge about concepts that will impact your life as a citizen of the world: global warming, stem cell cloning, nature versus nurture (how much can we blame on our genes?), what constitutes a significant scientific result, how complex problems can be solved. Many businesses and professions are impacted by biological factors and your knowledge of biology also can benefit your own health and well being!

We do not expect all Biology 001 and 002 students to be biologist or scientists. We believe that all students should have the opportunity to experience learning Biology from people who have a passion for it! The new lab in the Science Center was designed by the faculty to maximize interactive learning. The lecture hall has innovative technology to bring important visual aids that impact learning in biology.

If you are interested in Biology in any way, the department would like to get to know you. A great way to do that is through the introductory courses!

We hope to see you there!