

Biomedical Science / Biomedical Science H

Brief Description:

Biomedical science is a second year biology course designed for students interested in medicine and health. Students who enjoyed learning the molecular biology underlying nutrition, cells, gene expression, and cell reproduction will apply their knowledge toward exploring topics such as infectious disease, immunology, molecular genetics, biotechnology, neurobiology, metabolic disease, and cancer. The course will be taught through a combination of lecture / discussion and collaborative activities and labs. Students who elect this course for honor credit will be expected to demonstrate strong academic independence through completion of additional projects.

Grade Level: 12

Number of Meetings per week: 4

Full year or half year: Full Year

Number of Credits: 1

Prerequisite/helpful classes?: Physics I, Chemistry I, Biology I

Change from Biology II Honor

This class is similar to the previous Biology II Honor course, except that units on cancer and metabolic diseases will be covered instead of animal behavior.

Interesting labs and projects

Each unit will have a big overarching lab that we will do. In infectious disease, students enjoy the bacteria auction - we learn about the structure of bacteria and then we have an auction of who's going to have the most successful bacteria. We also do a 6-day lab, where we do bacterial plating and we see what kind of antibiotic works the best. In the past, we've also done a GMO lab - we do PCR and gel electrophoresis and look at food that are genetically modified. We've also done a glow lab, where you take bacteria and you transform it and see if you can get the right plasmid in to make it glow.

Homework / Honors Assignments

There will be reading assignments from the Campbell Biology textbook, OpenStax, and supplemental books. For labs, there won't be formal lab reports, but students will be assigned questions, like in Biology I. Honors students will be doing extra projects on their own.

Who should take this course?

The class is good for students who are interested in biomedical research or in understanding health, but not necessarily doing all the dissections and getting all the physiology of it in great detail - that's a difference between Anatomy and Physiology and this course.