

Anatomy & Physiology - Anatomy & Physiology Honor

Brief Description:

This second year biology program is a survey course which concentrates on mammalian anatomy and physiology. All vertebrate systems are covered on both a gross anatomy level and a microscopic anatomy level. The laboratory curriculum involves histology and organ dissections along with assorted laboratory experiences in physiology. Guest lecturers from the medical field will supplement the curriculum. Honors credit is given with the completion of additional assignments.



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

Class Structure

We try to do many different things in any one given day, so if we've read a article on new research, we'll talk about it, and then we'll break into groups to talk about things. Maybe do some notes. There are dissection days - 7 to 10 dissections we do throughout the year. We spend a whole block opening a certain organ, learning how it is all put together.

Example of a class

We did a do-now where we ordered the steps in muscle contraction and we talked about the three different kinds of muscles in the body. We colored pictures of each one. Then we talked about slow and fast twitch skeletal muscle - one kind suited for endurance and the other kind suited for power activities. We started doing a fun set of activities that talk about the different muscle types. We moved around the room in stations - we did vertical jumps and a stare test, and students calculated their BMI.

Dissections

We dissect everything from a chicken leg from the grocery store and we look all the tendons and ligaments in the leg and knee like the ACL, because a lot of people know about knee injuries. We find the meniscus. A chicken leg has all the same structures in it as a human leg, and we identify all the muscles, the quads, the hamstrings. Then we'll dissect a brain - we talk about the evolution of a brain and look at all the new and old structures evolutionarily. We also

dissect a kidney, heart, eyeball, and earthworm. The dissections really bring a lot to what we're learning.

Homework / Honors Assignments

A third or quarter of the time, there isn't any homework. Students often give multiple days to finish one night's homework.

Honors students have extra questions on quizzes that students have to answer. They also have to do a project every quarter that they get to decide - It can be anything from reading a set of articles on one particular topic that they're interested in and writing up a set of homework questions to go with them to listening to a podcast and writing a set of summary questions to go with that. They can go to an exhibit or lecture and write up summary notes.

Who should take this course?

It's meant to be for a large range of people - people who are interested in going into a medical field, or people who are just interested in getting an owners' manual for their own body.

STUDENT PERSPECTIVES

"It pairs well with AP Bio if you really like science. Right now, we're doing the exact same unit in both - we're both doing neurons. It's also good if you like science but you don't want to do all the work for an AP. We learn a bunch, but it's chill."

- Liana R. '19

"I really liked learning about the muscular system. I want to be a physical therapist, and I also took Medical Careers, and I really liked that. So, I wanted to expand my knowledge on anatomy. [I recommend this course to] anybody who is interested in a career in medicine or physical therapy or if you enjoy bio."

- Julia L. '19