Marine Biology - Marine Biology Honor

Brief Description:
An introductory course on the marine environment. We will survey the fundamentals of physical and chemical oceanography before diving into the rich biological and ecological diversity of the oceans. Major topics will include plant and animal life and types of communities such as coral reefs, seamounts, and estuaries.

Evaluation will be based on lab reports, quizzes and tests, individual and group projects, and participation. The course will culminate in a field trip to the New England Aquarium. Students who elect this course for honors credit will be expected to demonstrate strong academic independence through completion of extra 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

Typical day
Students get packets that they work their way through. Sometimes there will be samples - for example, we had samples of sponges, and students would sketch them. A lot of time microscope slides will be set up with cross sections of different organisms - we looked at dinoflagellates and lots of different one-celled organisms, as well as jellyfish. There are a lot of projects - we did a shoe box project where students created a seafloor in a shoe box and then they swapped with another group and then they had to map the seafloor of another group's shoe box. We are also going to do dissections of a clam and a squid. We also watch a lot of documentaries such on coral and plastics in the ocean.

Grading
Labs, activities, and projects make up a much larger proportion than in honors bio. They are pretty much equal in weight to quizzes and tests.

Homework / Honors Assignments

Most of the homework assignments are the same, which would be reading in the textbook or watching a video and taking notes on it or summarizing a lab. Then there are alternate honors assignments. For example, in the first quarter, honors students write a tsunami essay - they read articles about tsunamis and they have to synthesize it and answer questions in their own words.There's just one or two large assignments per quarter that honors students do.

Who should take this class?

Students who are passionate about science and biology. Also, students who like to draw might like this class - there's a lot of sketching of samples; students have to observe sponges and cells and then sketch it in color in detail. Students who like to work in groups and are creative will enjoy this class too; students recently made an infographic on corals - how ocean acidification affects corals or how warming causes coral bleaching.

STUDENT PERSPECTIVES

"We had a few labs, like we did a seaweed identification lab, and we're doing field guides for identifying different types of seaweed. Sometimes when we're doing notes, we also watch videos on youtube, like we watched a video about how sea sponges filter feed, so that was interesting. [I recommend this class] to anyone who likes going to a beach or the aquarium"

- Sara S. '19

"I find the class really interesting. We learn a wide variety of topics - we learn about the ocean and then we learn about the organisms in the ocean. We watched this documentary on corals and how they are dying because of global warming, and that was really sad, but that made me want to do something about it. Also, projects are fun - we did a shoebox project where we mapped the ocean floor and that was really cool."

- Elize G. '19