Science Department

Science is the tool humans use to learn about how our universe works. Scientific investigation leads to the development of theories that explain how our world functions, and that allow us to predict the outcomes of future experiments. Our mission is to inspire intellectual curiosity in our students about the natural world and, through a diverse and challenging curriculum, provide them with the tools for exploring and understanding that world.

We offer numerous courses in the biological, chemical, physical and earth sciences, all of which involve hands-on work in the laboratory or in the field. Students learn to make careful observations, analyze data, and draw conclusions; we emphasize the development of analytical problem-solving skills and higher order thinking processes over rote memorization.

Overview

High school students must take a minimum of three years of science, including a course each in earth systems science, chemistry, and biology. On average, however, Burke students take more than four years of science. Over the last decade, nearly 20% of each graduating class enrolled in two science courses during senior year, and over 35% took at least one AP course in their junior or senior year. It’s not uncommon for highly motivated seniors who are strong in science to take two AP courses simultaneously.

Course Sequence

- **9th Grade**: Earth Systems Science or Chemistry
- **10th Grade**: Chemistry, Conceptual Chemistry, or Advanced Earth Systems Science
- **11th Grade**: Biology, AP Chemistry, or Physics
- **12th Grade**: Physics or Conceptual Physics, AP Biology, AP Chemistry, AP Physics, Human Anatomy & Physiology

- Recent independent studies have included Astronomy, Genetics, and Organic Chemistry, conducted with mentorship from a member of the science faculty

**Preparation for College**

Students conclude High School Science well prepared for college-level work because:

- all science courses have a strong laboratory component and emphasize hands-on learning, critical thinking, and the development of problem-solving skills.
- many science teachers use local resources for teaching, including field work in Rock Creek Park, at the National Zoo, or in other Smithsonian museums.
- we have an active Science Teaching Assistant program, in which older students who enjoy science and have done very well serve as TAs for introductory level courses.

A substantial number of graduates pursue science and engineering in college, and several are in (or have completed) graduate programs in science and medicine; Burke is a great place for kids who are excited about science!