About Chemistry

What is Chemistry?

Chemistry is a branch of natural science that deals principally with the properties of substances, the changes they undergo, and the natural laws that describe these changes. Ancient people practiced chemistry when they combined ores using fire, which yielded metals with differing properties. The systematic study of chemistry began with the Egyptians and the ancient Greeks, who were the first to propose the existence of the atom. In the middle ages, chemistry (then known as alchemy) flourished, driven by discovery of new substances and techniques. Attempts to turn base metals into gold were responsible for much of this activity.

In modern industrial societies, chemistry is one of the foundations of the economy. Like other sciences, the advancements in chemistry have proven a boon to the world, and have brought with them challenges to overcome. Chemistry is the key to many of the solutions for the problems facing us today.

Biochemistry involves the study of biological processes at a molecular level. It draws on the techniques of analytical, organic, inorganic, and physical chemistry in determining the molecular basis of vital processes. The explosion in medical research in the past few decades has increased interest in biochemistry.

What do Chemists do?

The nature of chemistry encompasses the study of every substance. Research ranges from monitoring and removal of pollutants in the environment to the creation of new drugs and products, and onto the theoretical basic research that allows for all other applications. Chemists can be oceanographers or atmospheric scientists, forensic scientists, science writers, art restoration experts, patent lawyers, high school teachers, or winemakers, as well as working in the traditional industries of oil, food, mining, agriculture, and pharmaceutical companies. Graduate school, medical and dental school, as well as many other paramedical professions are open to chemistry graduates.

In interdisciplinary fields such as biochemistry and molecular biology, the study of chemistry is blended with other fields to create new approaches in research. The burgeoning biotechnology industry provides an additional avenue for chemists and biochemists who choose not to go on to graduate or professional school.

The Department

The UW undergraduate programs in chemistry and biochemistry, with an enrollment of nearly 850 students, are centered in Bagley Hall. The Department of Chemistry is a dynamic, growing department with faculty dedicated to providing quality education for all undergraduates through innovative programs, such as science service learning that have allowed UW students to mentor at-risk kids in science activities, monitor water quality in area streams, and help high school teachers in DNA sequencing projects. In 1994, work was completed on a new Chemistry Building that has enhanced our preexisting space by 100,000 square feet and provided upgraded facilities.
The biochemistry undergraduate degree program is jointly coordinated by the Chemistry and Biochemistry departments at the University of Washington.

The Chemistry Faculty

Information regarding individual faculty can be found in the Faculty Directory.

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