

A short history of biochemistry assignment



**ASSIGN
BUSTER**

Description: Biochemistry is the study of the chemistry of living things and the substance found in them. The main goal of biochemistry is to understand the structure and behavior of biomolecules. Biochemistry is a combination of chemistry and biology. It uses the methods of chemistry, physics, molecular biology, and immunology to study the structure and behavior of molecules found in biological material. It shows the ways these molecules interact to form cells, tissues, and whole organisms. This type of science is usually observed on a microscopic scale.

Biochemistry has helped us view and understand biological processes in cells and organisms. It has provided explanations for the causes of many diseases in humans, animals, and plants and can create cures for certain diseases.

History: In the nineteenth century, it was widely believed that life was not subjected to the laws physical science. It was thought that only living beings could produce the molecules of life. In 1828, Friedrich Wohler published a paper on the synthesis of organic compounds, proving that it can be created artificially.

The discovery of the first enzyme in 1833 by Anselme Payen, may have been the starting point in biochemistry. By the twentieth century, advances in equipment have made biochemistry more successful. Biochemistry soon broke off into different branches. In the 1950s, the discovery of the gene and its roll of the transfer of information in the cell was one of the most important discoveries in biochemistry. This discovery also started molecular biology. DNA structures also were discovered in the 1950s.

The discovery of genetics led to the introduction of forensic science. Today, there are three main types of biochemistry. Plant biochemistry involves the study of the photosynthesis and other plant specific biochemical processes.

General biochemistry studies both plant and animal biochemistry.

Human/medical biochemistry focuses on the biochemistry of humans and medical illnesses. Important scientists: ??? Friedrich Wohler- He published the first paper on the synthesis of organic compounds in 1828 (first theory

on biochemistry). Anselme Payen- She discovered the first enzyme in

1833 ??? James D. Watson, Francis Crick, Rosalind Franklin, and Maurice

Wilkins- They discovered DNA structure and its relationship with genetic

transfer. Because of their discovery, they won Nobel Prize in 1962 ???

Michael E. Sugar- He established the main types of biochemistry into its

branches. (Plant biochemistry, general biochemistry, human/medical

biochemistry) Significant Research contributions: ??? Analyzes foods to

determine nutritional value and effects of cooking, canning, and processing.

Develops methods to process, store, and use food, drugs, and chemical

compounds. ??? Isolates, analyzes, and identifies hormones, vitamins,

allergens, minerals, and enzymes, and determines their effects on body

functions. ??? Studies chemistry of living processes, such as cell

development, breathing and digestion, and living energy changes, such as

growth, aging, and death. ??? Researches methods of transferring

characteristics, such as resistance to disease, from one organism to another.

Examines chemical aspects of formation of antibodies, and researches

chemistry of cells and blood corpuscles. Current Research ??? Research in

behavior of disease cells, like smallpox, is done to understand smallpox-like

diseases and find cures in order to stop bioterrorism. ??? Research may

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provide a better understanding of why cancer develops and help scientists find more effective cures. ??? Researches and determines chemical action of substances, such as drugs, serums, hormones, and food on tissues and vital processes. Develops and executes tests to detect disease, genetic disorders, or other abnormalities. ??? Tests new drugs and medications used for commercial distribution. Educational/ Other Requirements In order to be a biochemist, one must have an extensive educational background. A bachelor's degree is the minimum formal education required for these fields of science. Many other biochemistry jobs require graduate school. For example, they may require a master's degree, and some require a Ph. D. , M. D. , or J. D. (law degree). Employees may also need some on-the-job training.

It would also be good to know some of these subjects for biochemistry:

Chemistry- knowledge of chemical properties, chemical composition, structure, and properties of substances
Biology – Knowledge of plant and animal organisms, tissues, cells, functions
Mathematics – Knowledge of arithmetic, algebra, geometry, calculus, statistics
English- Knowledge of English language like meaning and spelling of words, rules of composition, and grammar.
Engineering and Technology – Knowledge of the practical application of engineering science and technology