

## ***The value of the subject “General Chemical Technology”. The history of the development of Chemical Technology. Chemical Industry of the Republic of Kazakhstan. The most important technological concepts and definitions. Classification of technological processes on the basis of phase***

Modern chemical production is based on the achievements of science and technology.

The basis of chemical production is *chemical technology*.

From the Greek language, the term “technology” is translated as the science of the ability to do or create (technos - art, craft; logos - science, teaching).

*The object of chemical technology* is substances and systems of substances involved in chemical production, or chemical production itself.

*The processes of chemical technology* is a combination of various operations carried out in the course of production in order to transform one substance into another.

*The general chemical technology* is a science about the most economic chemical ways of processing of raw materials in target products and means of production.

*General Chemical Technology* is divided into *Mechanical Technology*, which studies the processes associated with changes in size, shape, state of aggregation, the crystalline structure of substances, and *Chemical Technology*. Chemical technology considers not only methods of chemical processing, but also a variety of physical, chemical and mechanical processes. Chemical technology studies the processing reactions that are associated with changes in the composition, structure and properties of substances, that is, with their chemical transformation into other substances.

*The subject of study of chemical technology* is chemical production, as a method of processing starting materials (raw materials) into useful products.

*The purpose of the study of chemical technology* is to create appropriate ways to produce the necessary human products.

Chemical technology is divided by industry into two groups: *inorganic* and *organic*.

### ***Story***

The beginnings of the creation of the foundations of chemical technology were laid back in antiquity mainly in ancient *China*, the states of *the Ancient East*, *America*, and later in *Europe*, *Russia* and other countries. But as an independent scientific direction, chemical technology was formed by the middle of the 20th century, although the prerequisites for this were the achievements of scientists beginning in the 8th century and the succeeding centuries.

Modern chemical production begins with the invention of the French chemist Leblanc of the soda production method in 1789. This led scientists to the need to develop new technologies for the production of sulfuric and hydrochloric acids, mineral fertilizers, ammonia and nitric acid, later synthetic rubber, synthetic dyes, catalytic raw materials, etc., which became the basis for the further development of industrial production.

In *Russia*, chemical technology was separated from theoretical chemistry and became an independent science, beginning in the 1800s, when the first Department of Chemical Technology was established at the Academy of Sciences, the first “Technological Journal” and textbooks were published, the St. Petersburg Practical Technology Institute was organized and for the first time general courses in chemical technology began to be read.

Later in the works of eminent chemists *D.I. Mendeleev*, *N.N. Zinin*, *N.D. Zelinsky*, *I.N. Kablukov*, *N.N. Vorozhtsov*, *A.G. Kasatkin*, *S.I. Wolfkovich*, *P.M. Lukyanov*, *P.T. Romankov* and other scientific foundations of chemical technology were laid. Only by 1914 in *Russia* there were more than 70 chemical plants. The organization of a number of scientific institutions of the corresponding chemical technology profile, the development of basic research on chemical technology, the publication of textbooks and a chemical technology journal played a significant role in the development of the science of chemical technology.