

## БӨЛІМ: ЖАЛПЫ РУБРИКА

## Chemistry is the basis of engineering specialties

ЖАРИЯЛАНДЫ  
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Over the past decades, chemistry has changed our world beyond recognition. Think about it: everywhere we are surrounded by artificially created materials. They make clothes, shoes, furniture, dishes, detergents and explosives, paints, building materials, cosmetics, electrical equipment, all types of transport, and many other useful and necessary things. «Chemistry stretches out its hands widely in human Affairs.» These words of M.V. Lomonosov perfectly reflect the significance of chemistry for our entire civilization. The chemist changes the face of the world. It creates composites from ordinary mineral raw materials, turns natural materials into hundreds and thousands of products necessary for man. It is not surprising that the labor market for graduates of chemical schools is very extensive. If you are thinking of making chemistry your profession, this article will be useful for you.

### Will there be of you a chemist?

Perhaps you are now deciding whether to link your fate with chemistry and whether you have the skills that would allow you to make a brilliant career in this field. Academician D. A. Epstein argued that the main thing for a chemist is the head and hands, that is, intelligence combined with developed motor skills. And, of course, no less important is the desire—a keen interest in substances and a desire to work with them. Studying the biographies of recognized luminaries of chemistry, you can see that they were interested in the processes of converting substances from an early age. For example, D.I. Mendeleev spent his childhood at a glass factory, Yu. Liebig enthusiastically watched the preparation of medicines in the pharmacy of his father, V. Ostwald was engaged in photography, and he was especially interested in solutions of developers, fixers, as well as the processes by which the image appears on paper. If you are sincerely interested in the science of substances, but still not sure that you want to make it your profession, we recommend reading the book by G.V. Lisichkin and L.A. Korobeynikova «Are you Fit to be a chemist?». It may help you make the right choice.

The specialty «technologist» is suitable for those who want to work in chemical enterprises – in factory workshops and production laboratories. Kazakhstan’s chemical industry has come to life and is in urgent need of young specialists. In addition, today many chemical enterprises in Kazakhstan have begun to offer employees decent salaries. Chemical technologists are in high

demand in enterprises that produce and process plastics, paint materials, fertilizers, as well as in the oil industry.

Tasks of the technologist: development of new compositions with specified properties; selection of raw materials; development of technologies for the production of new products; study of the properties of new substances and adjustment of recipes to improve quality. Today, not just chemical technologists are particularly in demand, but good specialists who are able to work with suppliers of raw materials, are well-versed in the chemical market, and can develop and lead projects for the introduction of a new type of product. This means that you will not be hindered by initiative, the ability to work with people, additional knowledge of Economics and management. Then you will be able to apply not only for an interesting job in your specialty, but also for a very decent income. Specialists in chemical technologies are trained at the Caspian University of Technologies and Engineering named after Sh.Yessenov.

The educational program «Chemistry» is one of the most popular and relevant programs. Demand for high-quality, competent and creative specialists in the field of chemical technologies in large industrial enterprises and research institutes of the region. Training of specialists is carried out in accordance with the requirements of professional standards of employers.

#### **Advantages of training:**

The Department of Natural Sciences provides training in the educational program: 6B01504 - «Chemistry».

Students have many opportunities to develop skills and knowledge in chemical engineering outside of classrooms, including student organizations and internships in industry.

Thus, students of our Department who study under the educational program «Chemistry» conduct research at the international level and are members of the student circle «Young technologist».

In order to improve student research work in the educational program «Chemical engineering», professors and qualified teachers are engaged in research work. Students annually participate and take prizes in research conferences, various competitions, Olympiads, international symposiums and other events.

The best students according to the results of the performance receive educational grants from the companies of JSC «KazMunayGas», LLP «Kurmangazy petroleum» LLP, «Tasbulatoil», NCOС.

The specialty program includes a modern education system, in which the student has the opportunity to receive an additional certificate under the MINER program. The certificate will allow you to carry out activities according to the selected program. For this specialty, there are

MINER programs - «IT technologies», «Electrical Engineering», «Transport and storage of oil and gas».

The module of the educational program includes an elective course-Preparation for IELTS, in which the student develops not only knowledge in the field of chemical technology, but also has a high level of English B2. An IELTS certificate is issued.

In addition, there is an opportunity to study in the master's program for young people with a bachelor's degree. Obtaining a master's degree allows you to continue your research and teaching activities in higher educational institutions, as well as to hold higher positions in oil companies.

Thanks to close cooperation with the largest domestic and foreign companies in the region, specializing in oil and gas, service and research areas, students in accordance with the program pass production practices and have the opportunity to find employment in oil and gas enterprises of the region as JSC «Mangistaumunaigas», JSC «Uzenmunaigas», LLP «Caspi Bitum», JSC «Karazhanbasmunaigas», LLP «KazNIPImunaigas», JSC «KazAzot».

After completing the educational program Chemistry, the bachelor of chemistry in the specialty «Chemistry» must be able to work in a team, possess fundamental knowledge and have a broad Outlook, must be able to adapt to the changing requirements of the labor market and technology.

Graduates are awarded the degree: Bachelor of engineering and technology in the educational program 6B01504 - «Chemistry».

After graduation, students of the educational program 6B01504 - «Chemistry»:

— know the main provisions of the legislation of the Republic of Kazakhstan, other legal norms and relevant regulatory requirements;

— know the main processes of oil refining, polymers and equipment for the production of petrochemical synthesis products, design, operation and repair of equipment for processing organic substances, pipeline transportation of oil and gas;

— ability to develop, plan and organize technological processes of oil and oil products processing;

— know how to implement measures for life safety;

— possess the basis of information technology, standard computer programs aimed at solving current and long-term problems.

Graduates who have received creative innovative education under the educational program 6B01504 - «Chemistry» can work in the following areas:

— teacher;

- research centers;
- research and design institutes;
- research and production centers;
- domestic and foreign major oil and gas companies;
- public institution;
- public and political organizations, etc.

We are waiting for you future chemists!

**Akkenzhe Bussurmanova, associate professor,**

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