

TO THE QUESTION OF ENVIRONMENTAL ENGINEERING

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Nowadays ecological problems are very important in the modern world. It is known that human activity has great negative influence on the environment, which consequences sometimes cannot be fixed. That is why the training of highly qualified environmental engineers is essential for technical universities.

The aim of this paper is to consider the question of the environmental engineering.

Almost every human activity is aimed at providing human being itself with food, comfort, clothes, protection, etc. Total state of the environment in the whole world can be described as unsatisfactory, in some areas even as critical. The problem of environmental pollution is starting to become one of the biggest global problems of today. Environmental engineers are such kind of specialists, who have united a sense of purpose with a first-class education and are prepared to deal with modern environmental issues.

It is generally known that environmental engineers are not just nature defenders: they are highly qualified specialists that are capable not only to solve environmental problems of today, but also to prevent their appearance in the future. The ecological mechanisms of the planet are unbalanced and with every day the amount of renewable resources is decreasing. Environmental engineer helps to harmonize our friendly co-existence with the environment.

Ecological students are in great demand all over the world, and nowadays lots of technical university graduate such specialists, so as Tomsk Polytechnic University (TPU). It has programs of bachelor and master degree in the direction of safety in technosphere, ecology and nature management. Future environmental engineers should understand the basic principles of the sustainable development of society. Engineers should know the humans' impact on the environment and should be able to observe, interpret and suggest some concepts to describe the state of environment. That is why TPU students study the following disciplines:

- Protection of the Biosphere From Energy Deposition;
- Environmental Protection Processes and Devices;
- Biomedical Basics of Occupational Safety and Health,
- Advanced Technologies of Water and Gas Cleaning and Waste Utilization;
- Methods of Biological Treatment.

Due to these subjects environmental engineers are able to solve some complex ecological problems of today.

In order to deal with ecological catastrophes problems not only certain knowledge are needed, but some skills are necessary too. Future environmental engineers must have the following personal skills:

- analytical – environmental engineers should be able to make informed decisions;
- problem solving – they have to be able to solve problems using the combination of logic and creativity;

- communication skill – for environmental engineers it is important to build a bridge between two opposite sides of opinions;
- proficiency in math and science – environmental engineers must be able to make prognoses;
- imagination – sometimes it is necessary to find an outstanding decision of some problem or to have an ability to see something old in a new way.

The profession of environmental engineer is ideal for young people who are interested in the environment and its keeping, smart modern technologies for improvement of condition of environment and sustainable development.

During the study engineering students find out something new not only about the surrounding world, but also about themselves.

Environmental engineers' activity plays a significant role in the development of the modern world. They take part in ecological expertise of some projects, technologies and industrial enterprises; they also deal with social problems of environmental pollution, so environmental engineers are engaged in the legal and government sectors and help to harmonize the development of the modern world and the environment.