
ENGINEERING STAFF TRAINING IS THE NEED OF THE HOUR

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The role of theoretical mechanics in the training of qualified engineers is increasing.

The education system aimed at the individual requires the higher school to improve the training of specialists, to train mature masters of their profession and personnel who are easily adaptable to other fields.

In the current conditions, it is urgent to train qualified personnel, especially in the field of technology. In the following decades, the interest of the younger generation in the field of engineering has significantly decreased, and it will be a problem to ensure sufficient progress of society without returning to the previous situation.

The state of professional training of engineering specialists, the prospects of their quality change have become one of the main tasks of higher education institutions.

The activity of a modern engineer is becoming more complex and differentiated, as a result, the requirements for an engineering specialist are also increasing. Together with the volume and depth of knowledge, there is a need to educate them to think creatively, to teach them a creative approach to solving everyday professional tasks. Therefore, the training of specialists in the technical field requires the following requirements:

- adaptability to new socio-economic conditions;
- finding independent solutions in non-standard situations;
- creative thinking and acting.

Technical education in the 21st century should be based on an understanding of the integrative role of the engineer in society. This requires every student to have analytical skills, a hunger for news, and lifelong learning and adaptability to technological changes in the world market.

These tasks are solved by improving the teaching of selected subjects in the higher education system.

Theoretical mechanics not only explains many important phenomena around us, but also is the scientific basis of all technical sciences. Its methods and methods are used in all technical calculations in the design of machines and structures

Along with the important educational aspects, the study of theoretical mechanics is also of great importance in the development of the professional thinking of the future engineer.

The better and deeper the theoretical mechanics is studied by the student, the more effective the study of other technical subjects will be.

Theoretical mechanics has an ancient history and has been developed for hundreds of years, and it is taught at a high level in many universities. At the same time, for many teachers of higher educational institutions, the science of theoretical mechanics remains an old-fashioned science without innovations, and it remains a science that has not been shown to have a clear practical significance in the formation of future engineers.

Teaching still consists of the classical method of presentation of the subject and control for subsequent mastery. This does not ensure the main and important role of teaching theoretical mechanics in the professional training of modern engineers.

Today, there is a lot of scientific interest in the technology of studying theoretical mechanics, that is, understanding the phenomena of nature and as the theoretical basis of technology. It is possible to enumerate dozens of scientists in the CIS countries who attach importance to this issue. V. Meshersky, A.A. Yablonsky, N.N. Buchholtz, N.E. Zhukovsky, N.V. Butenin, N.A. Kilchevsky, E.M. Nikitin showed them. Uzbek scientists M.T. Orozboev, V.Q. Qabulov, T. The Rashidovs also paid a lot of attention to this issue. In particular, Akademik A. published in 2020. The textbook "Theoretical Mechanics" created by Rashidov and others differs from the previous edition in that it has been reworked and new problems and assignments have been added.

The first edition of the textbook was published in Cyrillic in 1990 under the name "Fundamentals of Theoretical Mechanics".

The absence of an electronic version of the first edition, the need for a textbook in the Latin alphabet, and changes in the teaching programs of theoretical mechanics in the last 30 years prompted the preparation of the second edition.

In order to make it easier for students, the book was supplemented with calculus-graphic works for independent work in practical classes of theoretical mechanics.

In the following years, I. V. "A collection of problems from theoretical mechanics" created under the leadership of Meshchersky, A. A. Yablonsky's "Theoretical Mechanics Assignment Set for Coursework" solutions appeared and several Uzbek translations of problem sets were created, as well as methodological guides and guides for solving many problems created an environment of ease for students to solve problems independently. Based on this, some problems from the previous edition were removed and filled with problems for independent solution.

In the following years, the audience hours were reduced.

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