

Tomsk Polytechnic University

and engineering education reform in Russia

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ЗАПИСКА

Совѣта Томскаго Технологическаго Института ИМПЕРАТОРА НИКОЛАЯ II по поводу вопросовъ Министерства Народнаго Просвѣщенія о желательныхъ измѣненіяхъ въ строѣ высшихъ специальныхъ учебныхъ заведеній.

Совѣтъ
сужденіяхъ
спѣшенія,
исходить и
Томскій
тутъ есть
различныхъ
и связавши
не края
учебное за
дѣнія слуш
инженерной
Для вы
ческомъ Ин
а) чтобъ
высшей пр
тельно, съ
Просвѣщен
б) чтобъ
которое да

и заботится только о благосостояніи Института, совершенно не считаясь съ посторонними вліяніями и воздѣйствіями;

в) чтобы учебный персоналъ былъ обеспеченъ въ матеріальномъ отношеніи и посвящать все свое время Институту, не будучи вынужденнымъ искать посторонняго дополнительнаго заработка;

In October 2000 Tomsk Polytechnic University will celebrate its hundredth anniversary since the beginning of training first Siberian engineers. Demand for local specialists was stipulated by the

on June 12, 1900 has appeared to be so progressive and reformatory that the Committee of the Department of Public Education used it as a basis for its work on changing the range of higher educational institutions of Russia. The TIT Academic Board's message addressed the Committee run: 'Tomsk Technological or rather Polytechnic Institute is an academic institution, which aims to solve different problems touching on engineering disciplines and related theoretical sciences, and also study the region in this direction. At the same time it is a higher educational institution which aims to convey necessary information to students who will be involved in academic and engineering activities connected with different disciplines'.

Being a scientific-and-educational polytechnic institution, Tomsk Institute of Technology has always tried to meet contemporary requirements. Almost one hundred thousand highly qualified specialists have been graduated from our institution. Among them mining engineers, first Russian mine surveyors; mechanical engineers; hydrogeologists; thermal power engineers; architects and builders; physicists and chemists; production organizers and many other specialists.

TPU graduates of today are specialists in the field of management of different scientific and industrial branches and engineers who have a complete command of foreign languages and adapt rather easily in the market economy.

At present the University revives arts education and strengthens fundamentalizing of education. New ecolog-

Совѣтъ Томскаго Технологическаго Института въ своихъ сужденіяхъ по поводу вопросовъ Министерства Народнаго Просвѣщенія, касающихся высшихъ специальныхъ учебныхъ заведеній, исходить изъ слѣдующаго основнаго положенія:

Томскій Технологическій или — вѣрнѣе — Политехническій Институтъ есть ученое учрежденіе, имѣющее цѣлью научную разработку различныхъ вопросовъ, касающихся инженерныхъ специальностей и связавшихъ съ ними теоретическихъ наукъ, а также и изученіе края въ этомъ направленіи. Въмѣстѣ съ тѣмъ это есть высшее учебное заведеніе, имѣющее цѣлью сообщать необходимыя свѣдѣнія слушателямъ, подготовляющимся къ ученой и практической инженерной дѣятельности по разнымъ специальностямъ.

public policy pursued in connection with the reclamation of the vast eastern territory of Russia. Tomsk Institute of Technology

was opened in the early part of the 20th century under conditions of economic and political crisis and the beginning of reforming higher school of the country. However, thanks to the first Director of TIT, Prof. E.L. Zubashev's talent and clarity of vision, the Development Concept of Tomsk Institute of Technology stated by TIT Regulations

ical disciplines are offered. The TPU Development Concept is oriented towards integration into the international educational area. Currently, the University takes steps to accredit five educational programs through the international centres of England and the United States.

More than 19 thousand students study at TPU today in 77 disciplines and 27 lines at 13 faculties; 500 post-graduates, almost 800 PhDs and 130 DsSc work at the University. Different educational tracks are possible at TPU as well as education of different levels: bachelor, specialists with degrees, engineers, masters, and doctors. There are three Research Institutes at TPU and Cybernetic Institute; Institute for Language Communication; Institute for Distance Learning; Seversk Institute of Technology and a number of branch and representative offices in Siberia and abroad.

As before Tomsk Polytechnic University intensively participates in reforming engineering education.

Together with the Ministry of Education of the Russian Federation, the Russian Association of Engineering Education Tomsk Polytechnic University takes part in the work on forming the new generation of top specialists capable of stabilizing the economic position of the country.

These results are reflected in the national educational doctrine, which is formulating now in Russia. The doctrine stated the necessity of combining humanities and social sciences, mathematics and natural science and special engineering background at a given level and education, which provides methods of cognizable and engineering activities, communicative and axiological activities at a given level, and also the ability which provides the comprehensive preparation of a person to a professional activity and internationalization of engineering education.

To implement these innovations we must find out and create non-traditional technological, social, and educational decisions, which would result in the effective rise of teaching and learning and technologies. This will allow transferring the study-educational process to the scientific-educational process in engineering education.

The doctrine presents problems of public support of the quality of engineering education, which meets the requirements of international standards, national and regional systems of the quality of engineering education. The quality integrals must include:

- a new generation of national educational standards and educational standards of educational institutions based on them;

- a quest system for gifted young people to work with them;

- a system of self-attestation and public attestation of educational engineering institutions;

- a system of engineers' attestation and conferring certificates of different levels;

- a social and economic incentive scheme for the professional development and rising the engineering status in the society;

- the system of a continuing professional development.

The doctrine of engineering education has been developed by means of contemporary high technologies based on systems approach techniques, project management, efficient work with experts, and information and telecommunication technologies.

The TPU Development Concept meets the principles of the present doctrine of engineering education. The implementation of this doctrine will allow Tomsk Polytechnic University to steadily take advanced positions within the system of higher engineering education of Russia.

ВЕСТНИК СИБИРСКИХ ИНЖЕНЕРОВ

НАУЧНО-ТЕХНИЧЕСКИЙ ЖУРНАЛ. 1948 г. 1. 1. 1. 1957 г.

№ 5. - 1948 г. ТОМ IV. 1923 г.

РЕДАКЦИОННАЯ КОЛЛЕГИЯ: Редакторы проф. Н. Н. Бутаков, проф. И. И. Минин, члены коллегии: проф. Н. В. Гутоский, проф. В. Н. Пинегин, проф. М. А. Усов.

Адрес редакции: Томск, Бульварный 5-а.

Статьи, опубликованные в журнале, считаются собственностью редакции. Авторы оригинальных статей получают номер журнала бесплатно. Авторский гонорар по соглашению с редакцией. Отдельные отázky печатаются по желанию авторов за плату с оплатой стоимости бумаги и типографских работ.

Задачи инженерного образования.

Проф. И. П. Гобарьков.

Высоко развитая промышленность является одним из залогов экономической мощи государства. При этом, конечно, предполагается рациональное использование природных богатств страны, использование, при котором удовлетворяются интересы граждан, совершаются известные накопления ценностей из случайных бедствий и других катастрофических явлений и не упускаются из виду интересы потомков. Наличие громадных естественных даров природы еще не определяет богатства нации, поскольку эти дары находятся в потенциальном состоянии или эксплуатируются хищнически. Ниже приводимая таблица представляет обзор мировой торговли за период с 1899 по 1913 год.

Таблица I-а. 0000 в миллионах рублей.

Страна:	1899/05	1905/00	1900/05	1905/10	1911	1912	1913
Англия	3383	3568	4430	6080	5430	5960	6100
Германия	1972	2348	2825	3620	4493	4050	5300
Соед. Шт.	1431	1431	1871	2595	2935	3170	3450
Франция	1532	1585	1830	2327	3032	2992	3050
Россия	409	609	683	881	1162	1273	1360
Ав. Венгрия	533	617	743	1011	1252	1366	1306
Италия	436	523	700	1102	1266	—	—