



Measures to maintain the quality of educational services at the chemical faculty of BSU

Baku State University

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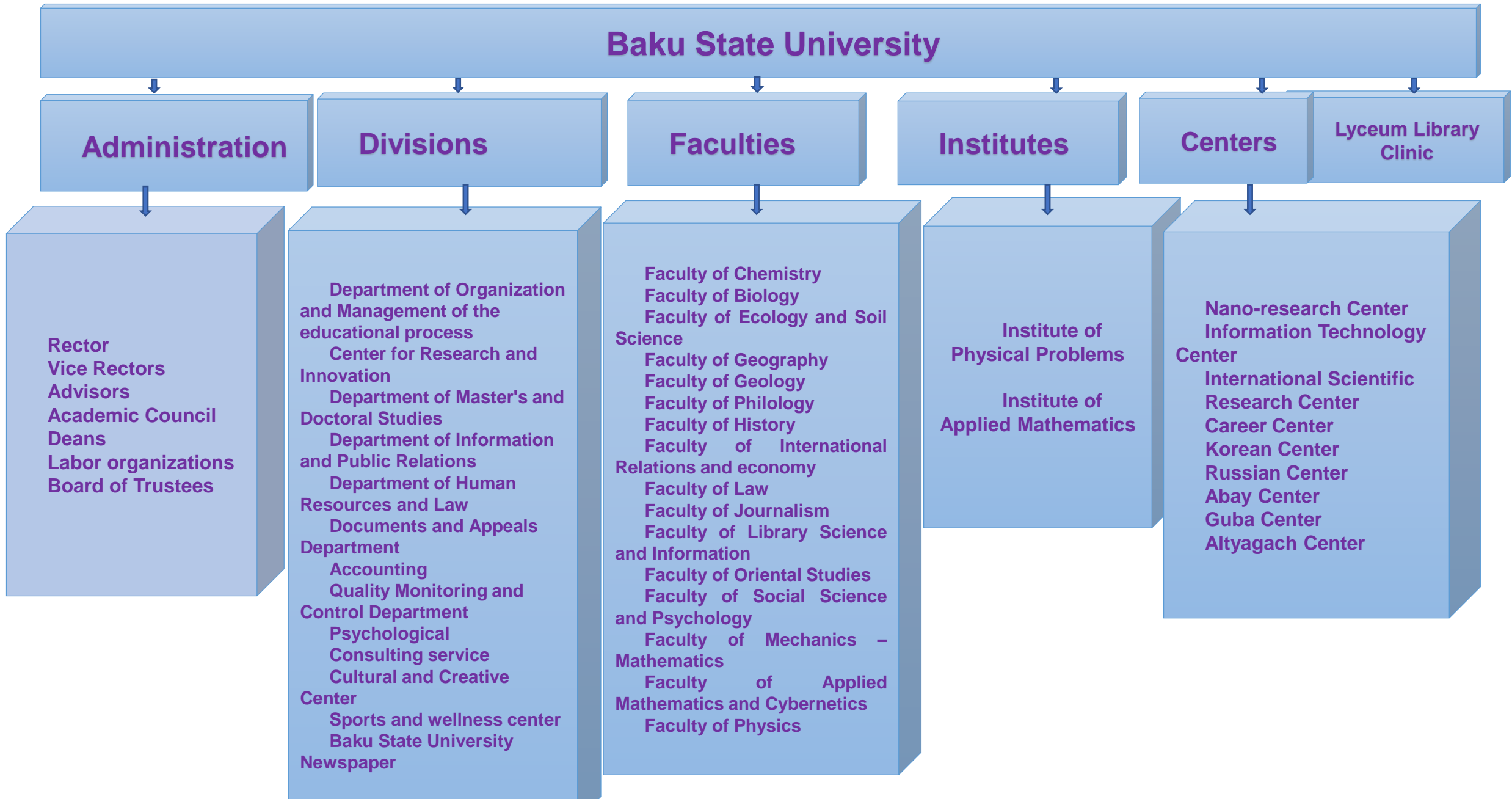


Baku State University is the oldest and largest university in Azerbaijan. Since its foundation in 1919, two years ago, BSU celebrated its centenary.

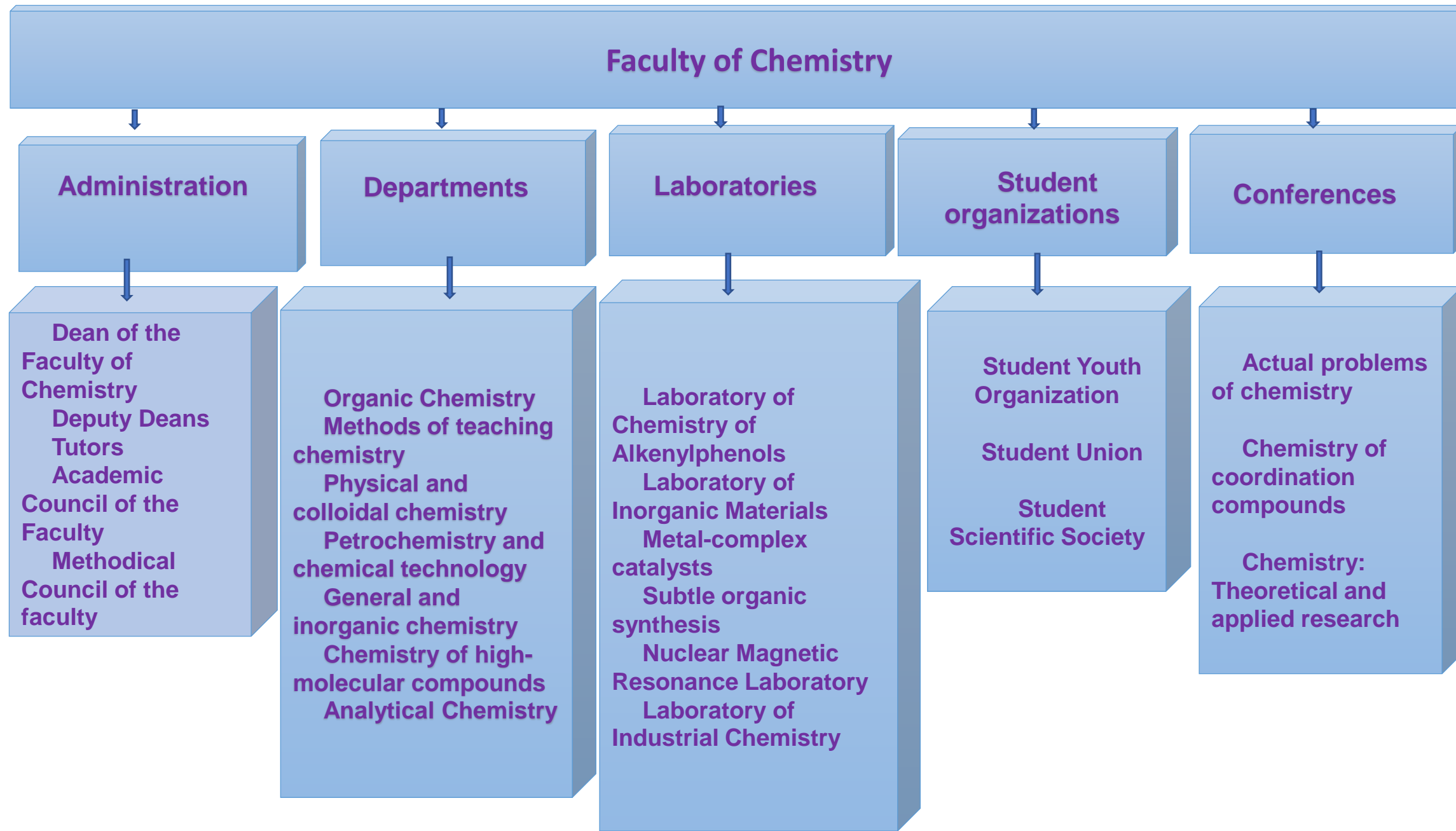
More than 23 thousand students, bachelors, masters and doctoral students study at Baku State University. 1,500 professors and teachers pass on their knowledge and 1,300 technical workers successfully perform their duties.

BSU has 16 faculties, 124 departments, 2 research institutes. The Chemical Faculty of BSU has 7 departments and 6 research laboratories.

BSU structure



Structure of the Faculty of Chemistry



Three-level system of education at the Faculty of Chemistry of BSU

Educational programs in the specialty "Chemical Engineering" include compulsory disciplines and elective courses:

966 bachelors of the Faculty of Chemistry are trained in the following specialties: 050504 – Chemistry, 050111 - Chemistry Teacher, 050641 - Chemical Engineering

89 undergraduates, 22 doctoral students and 15 dissertators work on master's and candidate's theses at the Faculty of Chemistry.

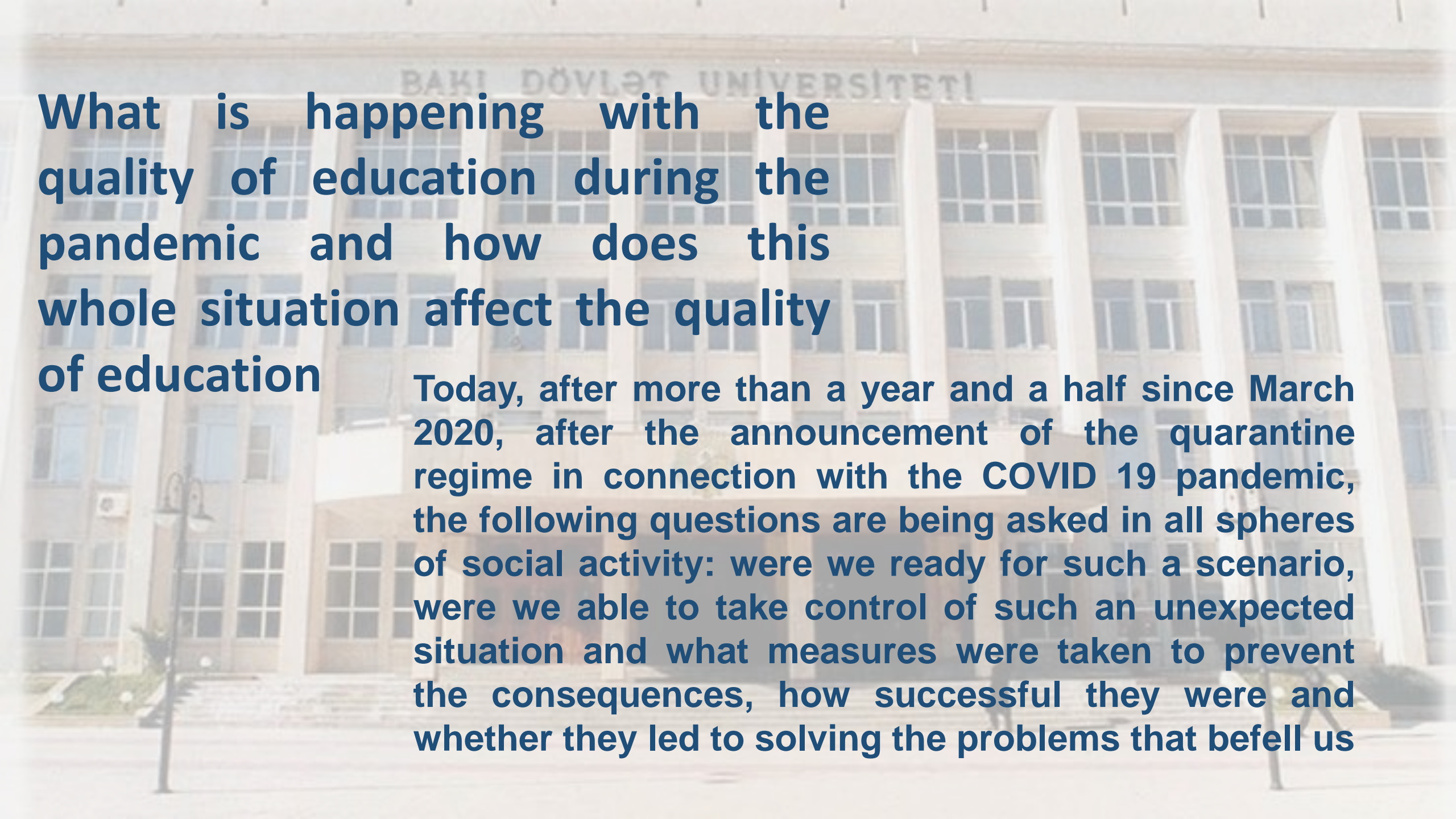
1. Engineering design in modern chemical technology
2. Design of processes and devices for chemical technology
3. Chemical technology of silicates, catalysts and adhesives
4. Processing and modification of polymers
5. Applied Materials Science
6. Technology of organic and petrochemical synthesis
7. Chemistry of high-molecular compounds
8. Oil refining technology
9. Sources of raw materials for the oil refining and petrochemical industry
10. Chemistry and technology of industrial polymers
11. Polymer composite materials
12. Nanochemistry and nanotechnology
13. Mathematical methods in chemical engineering calculations
14. Chemical technology of medicines
15. Mathematical modeling of chemical and technological processes
16. Surfactants, design basics
17. Elastomer-based data processing technology
18. Kinetic modeling of chemical processes



Certification of students

- The certification of students is carried out according to a 100-point system. The academic year usually consists of two semesters (autumn and spring). In addition, during the summer holidays, the duration of the summer semester may not exceed six (6) weeks. 45 weeks for theoretical training, 8 weeks for research and practice and 15 weeks for examination sessions.

Education at the Faculty of Chemistry is conducted in three languages: Azerbaijani, English and Russian. International students can also choose any language at their discretion.

The background of the slide is a photograph of the Baku State University building. The building is a large, multi-story structure with a light-colored facade and numerous windows. The name "BAKİ DÖVLƏT UNIVERSİTETİ" is visible on the upper part of the building. The text is overlaid on the left side of the image.

What is happening with the quality of education during the pandemic and how does this whole situation affect the quality of education

Today, after more than a year and a half since March 2020, after the announcement of the quarantine regime in connection with the COVID 19 pandemic, the following questions are being asked in all spheres of social activity: were we ready for such a scenario, were we able to take control of such an unexpected situation and what measures were taken to prevent the consequences, how successful they were and whether they led to solving the problems that befell us

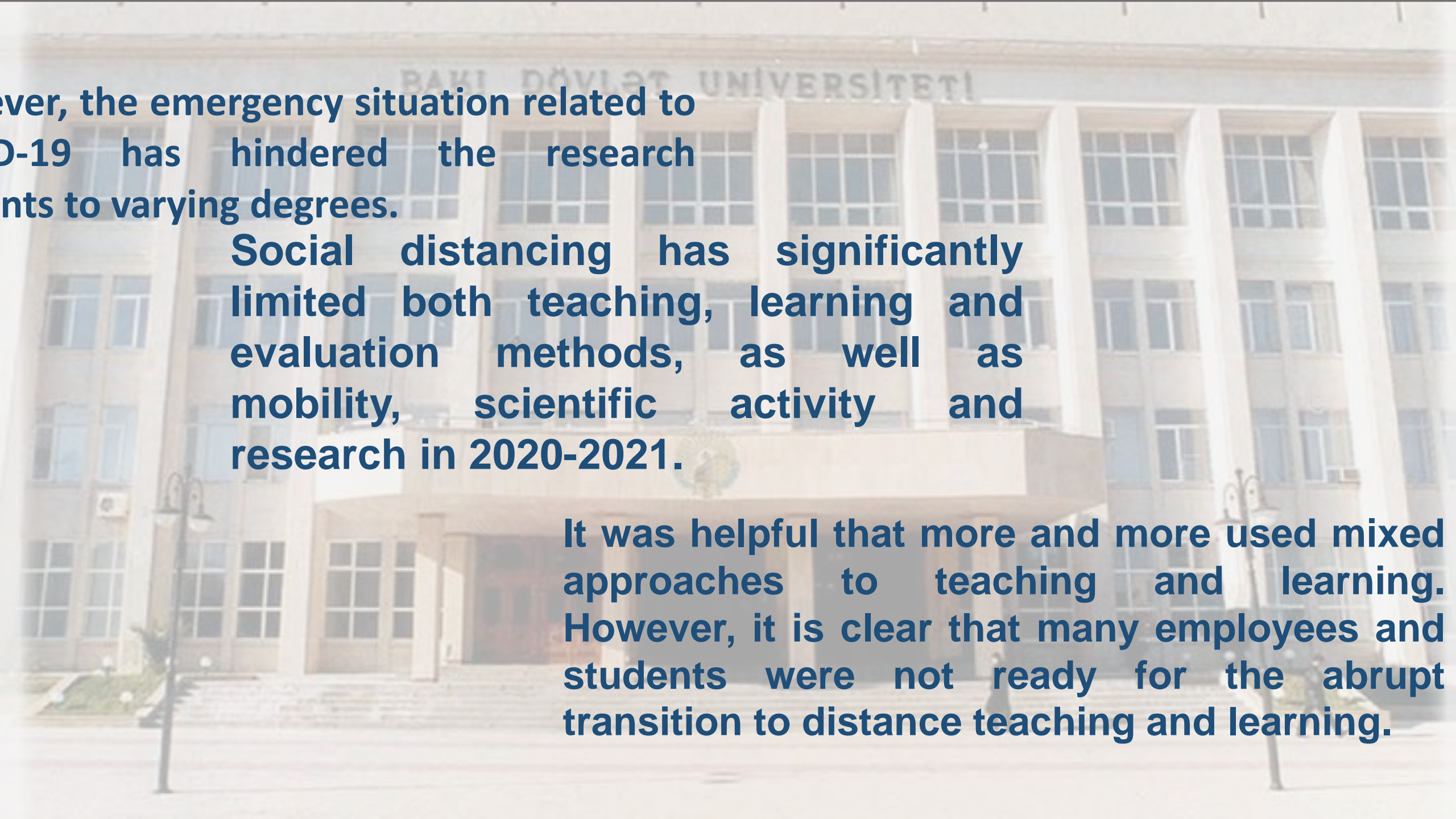
Synergy of science and Education at the Faculty of Chemistry of BSU

The Faculty of Chemistry takes into account the fact that science and education are inseparable, because the integration of science into education and the involvement of innovative methods contribute to :

- Improving the effectiveness of research;
- Improving the quality of education;
- Development of relations with business and processes of commercialization of applied research results

At the Faculty of Chemistry, special attention is paid to academic mobility. This practice gives excellent results, since both students and teachers successfully disseminate the acquired experience after mobility, which, in turn, led to increased cooperation in both educational and scientific fields.



The background image shows the facade of a large, multi-story university building with a classical architectural style. The building features a series of tall, rectangular columns supporting a balcony or upper floor. The name "BAKI DÖVLƏT UNIVERSİTETİ" is visible in large, light-colored letters across the top of the building's facade. The text is in a serif font. The overall tone of the image is slightly faded, giving it a soft, ethereal appearance. The text is overlaid on the left side of the image, in a bold, dark blue font.

ever, the emergency situation related to
D-19 has hindered the research
nts to varying degrees.

**Social distancing has significantly
limited both teaching, learning and
evaluation methods, as well as
mobility, scientific activity and
research in 2020-2021.**


**It was helpful that more and more used mixed
approaches to teaching and learning.
However, it is clear that many employees and
students were not ready for the abrupt
transition to distance teaching and learning.**

The role of information technology infrastructure in BSU

The information technology infrastructure has played a crucial role in ensuring rapid change. Without it, almost everything would have been stopped. However, resource issues such as access to reliable internet or suitable devices have made remote access a problem for some students and staff.



At the Faculty of Chemistry, in response to the current difficult situation with the pandemic, the distance learning mode is combined with traditional methods. This hybrid approach in teaching is necessary for educational programs that provide for the acquisition of practical skills and abilities, as well as for conducting experimental scientific research. Thus, the revision of educational methods and timely response to the current situation and changing circumstances serves the policy of ensuring the quality of the educational program.



Blackboard
learn⁺

USERNAME

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Full-time education has been fully resumed in Azerbaijan since September 29. In total, 1,214,663 pupils and students have started classes in Azerbaijan since September 29, 2021. In higher educational institutions, 171,820 students for a bachelor's degree and 16,920 students for a master's degree (a total of 188,740 people) have started classes.

However, along with full-time education at BSU, there are also distance learning forms carried out on the Blackboard platform.

With the restoration of full-time education, academic exchange programs for students, doctoral students and teachers have also resumed.

In addition, scientific research involving students has intensified. In September 2021, the Foundation for the Development of Science under the President of the Republic of Azerbaijan announced a competition for youth scientific projects, in which students and doctoral students of our faculty actively participated.



Success Story

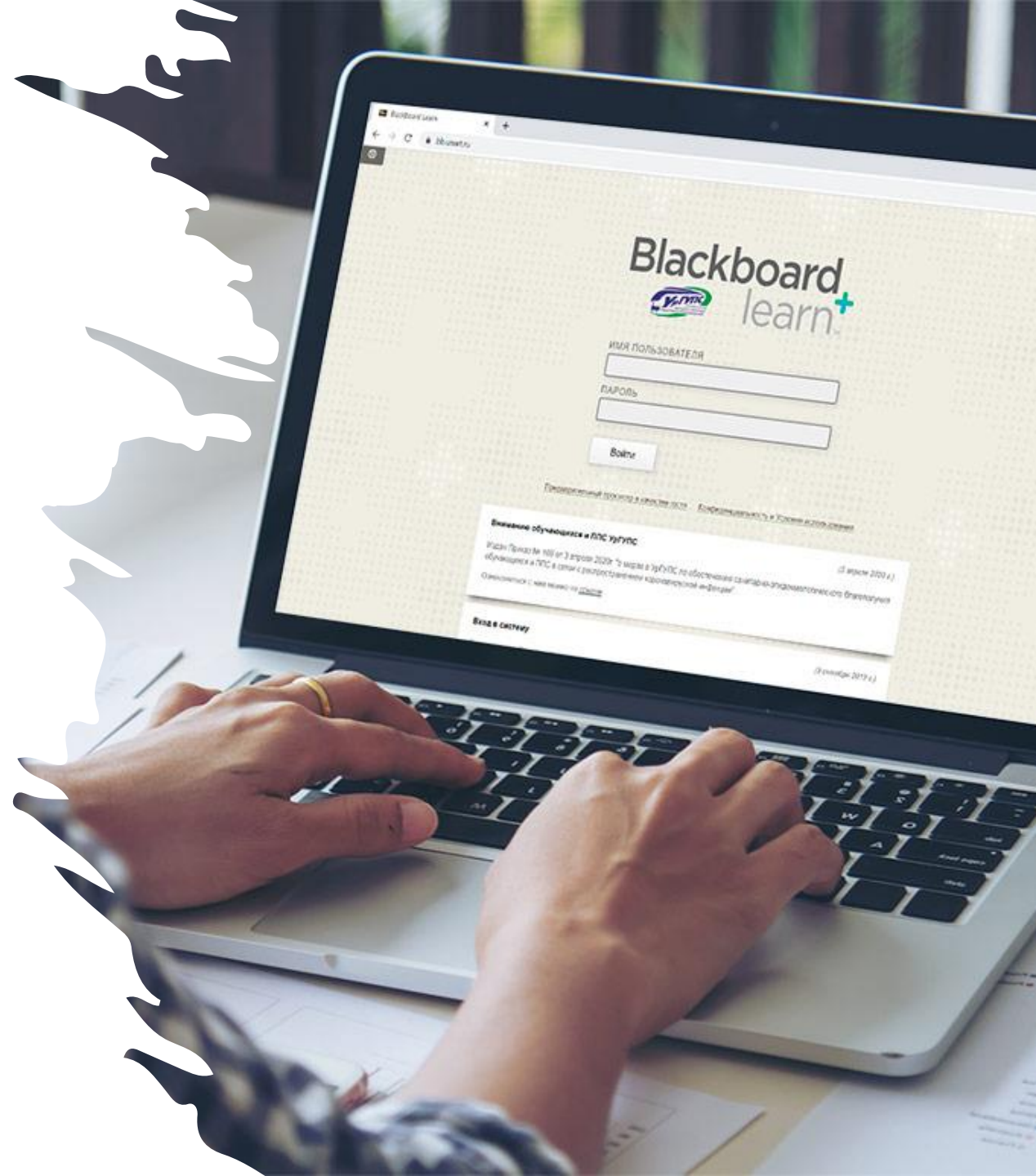
- Within the framework of the Erasmus exchange and mobility program, students and teachers of the Department of Organic Chemistry of BSU and the Faculty of Bioengineering of the Turkish Yildiz Teknik University have established successful scientific and educational cooperation. As a result of this cooperation, in 2020 we won the joint project of SDF and TUBITAK - EIFBQM-5-Azturk-1-2018-2 (32) Competition of fundamental and applied scientific research "Development of new antimicrobial drugs based on peptides and their research in vitro / in vivo “.





- Taking into account that one of the important aspects of student-centered education is the participation of students in scientific research, in international exchange programs and internships, student exchange programs have resumed at the Faculty of Chemistry, in particular, 2 undergraduate students from our faculty will study at the University of Sivas (Turkey) in the spring semester as part of the ERASMUS program

- In the context of a hybrid form of education at BSU, it was decided to conduct lectures online. At the faculty, 2 times a week, students, while at a distance, participate in remote lectures, which are held on the Blackboard platform. The remaining days of the week, laboratory and seminar classes are held in full-time. It should be noted that the previous year and a half, the Teams platform was used.
- At the moment, both students and teachers express great satisfaction with distance learning conducted on the Blackboard platform. The technical capabilities of this program make it possible to attract students to a more active role in the educational process.
- The faculty constantly conducts trainings for students and teachers in order to improve the efficiency of using the Blackboard platform



Our expectations

- Surprisingly, but quite unexpectedly, we came to the conclusion that the use of digital technologies in education has a number of advantages.
- We are trying to concentrate all the best practices, put them into a certain system, which, in a recommendatory manner, can allow our faculty to build a systematic work in the field of improving the quality of education.



— However...

- During the pandemic, serious problems and a certain level of dissatisfaction were present when evaluating and conducting online classes, which provided for the student's direct physical involvement in the learning process (performing practical work, experimental scientific research, etc.). In some cases, problems have arisen in the following areas: the quality of interaction between people using technology; adaptation of older teachers in a short time; conducting protracted online exams associated with problems of academic integrity; internet speed.



Internet speed

Based on the conducted by the Agency Cable.co.uk After analyzing the statistics and rating of high-speed Internet worldwide, the average Internet speed in Azerbaijan was 6.63 Mbit/s. The global Internet speed rating was compiled based on more than 1.1 billion speed tests over 12 months, covering 224 countries, until June 30, 2021. According to this rating, Azerbaijan's position has decreased by 25 steps compared to the previous year. All this causes concern, because, despite the fact that the educational process has been taking place in the traditional form since the beginning of the school year, the threat of the spread of the virus has not been completely resolved, and therefore it is quite possible to repeat last year's practice.



- It was not possible to avoid certain difficulties in the assessment: full-time exams are the basis of the final assessment in higher education, and all of them have been canceled since mid-March 2020. In most cases, to ensure the quality of the assessment, alternative proposals were developed and adopted at the faculty, which took into account and were guided by the following fundamental principles:

- development of assessment methodologies alternative to exams that properly assess the learning outcomes of the program or stage.
- protecting the academic integrity of qualification processes.
- ensuring that students are not "disadvantaged" by alternative assessment methods.



- Taking into account the challenges and lessons that were dictated by the extraordinary circumstances of the outbreak of the pandemic, the faculty is trying to organize an effective procedure for the current control of students' knowledge and use continuous assessment of knowledge, skills, skills and competencies to ensure a policy of transparency and accessibility.
- In this regard, the programs of standardized tests and questions of disciplines of educational programs are being revised. The assessment is proposed to be carried out both in online form on the Blackboard platform, and during face-to-face classes (continuous assessment mode).



We believe that...

A Newton's cradle with five silver spheres hanging from thin wires against a blue background. The spheres are arranged in a horizontal line, and the one on the far left is slightly higher than the others, suggesting it has just struck or is about to strike them.

- + The latest technologies used allow you to enrich your own programs with the best courses from other educational institutions or to attract specialists and experts from certain fields to conduct courses and lectures on a certain topic.**
- + To solve the problem of shortage of personnel in new specialties in demand on the labor market, online education opens up opportunities for close partnership relations between the university and the business sector.**
- + Thanks to two-way online courses, experts from the business sector can act as lecturers to transfer the necessary competencies in training future specialists for their enterprises.**
- + The organization of joint scientific events (conferences, seminars, master classes) in online mode contributes to the effective exchange of scientific ideas.**

All these advantages of distance education combined with traditional full-time education will favorably affect the quality of education

Diqqətiniz üçün təşəkkürlər

Nazar awdarğanıñızğa raqmet

Thank you for attention

