



**INDEPENDENT AGENCY  
FOR QUALITY ASSURANCE IN EDUCATION (IQAA)**

**EXTERNAL REVIEW REPORT  
BAKU STATE UNIVERSITY**

**PROGRAM ACCREDITATION  
060504 Physical Chemistry**

**Nur-Sultan – 2021**

## ***EXPERT GROUP***



### **Galina Seitmagzimova, Head of the external expert group**

Head of the Department "Chemical Technology of Inorganic substances", Professor, Candidate of technical sciences, M. Auezov South Kazakhstan University



### **Ralf Zimmermann**

Professor of Analytical Chemistry (W3) Department and Head of the Joint Mass Spectrometry Center of the University of Rostock and Helmholtz Zentrum München, PhD



### **Armando JL Pombeiro**

Full Professor Jubilado of the Instituto Superior Tecnico, Universidade de Lisboa



### **Gülcin Abbaszade**

PhD, Senior Scientist, Helmholtz Zentrum München



### **Magomed Babanly**

Deputy Director for Research, Institute of Catalysis and Inorganic Chemistry of ANAS, Corresponding Member of ANAS, Doctor of Chemical Sciences



### **Emin Aliyev**

2nd year Master's student, Institute of Catalysis and Inorganic Chemistry of ANAS

***THE LEVEL OF COMPLIANCE OF THE SELF-ASSESSMENT  
REPORT WITH THE ACTUAL STATE OF THE EDUCATIONAL  
PROGRAM: 060504 PHYSICAL CHEMISTRY***

---

Standards	Indicate the level of compliance of the self-assessment report with the actual state of affairs at the higher education institution for each standard			
	Full compliance	Significant compliance	Partial compliance	Non-compliance
<b>STANDARD 1.</b> POLICY IN THE AREA OF QUALITY ASSURANCE OF THE EDUCATIONAL PROGRAM AND ACADEMIC INTEGRITY	+			
<b>STANDARD 2.</b> DEVELOPMENT AND APPROVAL OF THE EDUCATIONAL PROGRAM, INFORMATION MANAGEMENT	+			
<b>STANDARD 3.</b> STUDENT-CENTERED LEARNING, TEACHING AND ASSESSMENT	+			
<b>STANDARD 4.</b> STUDENT ADMISSION, LEARNING OUTCOMES, RECOGNITION AND QUALIFICATIONS		+		
<b>STANDARD 5.</b> TEACHING STAFF	+			
<b>STANDARD 6.</b> LEARNING RESOURCES AND STUDENT SUPPORT	+			
<b>STANDARD 7.</b> PUBLIC INFORMATION	+			

## ***CONTENT***

<b>Chapter 1. CONTEXT AND PURPOSE OF THE AUDIT</b>	<b>5</b>
Introduction	5
Main characteristics of the higher education institution	6
<b>Chapter 2. REPORT ON THE EXTERNAL REVIEW BY THE EXPERT GROUP</b>	<b>7</b>
<i>Introduction</i>	
Compliance with the programme accreditation standards	8
<i>Standard 1</i>	8
Policy in the area of quality assurance of the educational program and academic integrity	
<i>Standard 2</i>	9
Development and approval of the educational program, information management	
<i>Standard 3</i>	12
Student-centered learning, teaching and assessment	
<i>Standard 4</i>	14
Student admission, learning outcomes, recognition and qualifications	
<i>Standard 5</i>	15
Teaching staff	
<i>Standard 6</i>	17
Learning resources and student support	
<i>Standard 7</i>	18
Public information	
<b>Chapter 3. CONCLUSION</b>	<b>20</b>
<b>Annexes</b>	<b>23</b>
<i>Annex 1</i>	
Program of the external review	
<i>Annex 2</i>	25
List of interview participants	
<i>Annex 3</i>	28
List of additional documents	

## *CHAPTER 1*

---

### *CONTEXT AND PURPOSE OF THE AUDIT*

#### *Introduction*

The external visit of the expert group in the frames of program accreditation procedure for educational programs of Baku State University took place from March 15 to 16, 2021.

The external audit was conducted in accordance with the program developed by IQAA and agreed with the university management. All the necessary materials (the program of the visit, reports on the self-assessment of educational programs, Standards and criteria of program accreditation, Guidelines for organizing and conducting an external visit (audit) for the procedures of institutional and program accreditation, the template of the external audit report for program accreditation) were presented to the members of the expert group a month prior to the site visit, what let the expert group prepare to the external review procedure in a timely manner.

The meeting with the management of the university allowed the team of experts to officially get acquainted with the general characteristics and achievements of the university in recent years. The planned activities for the external visit contributed to a more detailed acquaintance with the material and technical, educational, laboratory and research base, with the teaching staff of the departments in the areas of accredited educational programs, undergraduates, graduates and employers allowed external experts to independently assess the compliance of the data presented in the self-assessment report of educational programs with the actual state of affairs of the university.

The experts examined the departments in the areas of accredited educational programs, the research laboratories in the areas of accredited programs, as well as other facilities of the universities related to accredited educational programs.

The self-assessment report of the educational program contains a large amount of information, where all areas of activity of structural divisions are analyzed in accordance with the IQAA's Standards of program accreditation, strengths and weaknesses are identified, threats and opportunities for further development are identified.

In the course of the external audit, the experts, in order to get a more detailed examined the document flow, educational and methodological, and material support, studied the documentation of the departments, including video materials, online courses on the cycles of disciplines, and elective disciplines, selective attendance of training sessions (online) in the areas of accredited educational programs.

In advance of the audit, the university prepared and presented to the experts a promotional video on the university and the accredited educational programs.

## ***Main characteristics of the higher education institution***

Baku State University was founded in 1919. It operates based on the Charter, has state accreditation of July 7, 2017, No. 010 for the right to conduct educational activities in the field of higher and postgraduate education in 66 bachelor's specialties, 235 Master's specialties, 114 doctoral specialties.

The educational process is organized following the normative documents of the Ministry of Education and the Cabinet of Ministers of Azerbaijan.

Baku State University represents itself in the market of educational services as the leading classical university in Azerbaijan which aims to continue the dynamic development of internationalization, acquire the status of an international university, as well as an advanced research center.

One of the main tasks of the internationalization of the university research work is the search for new international programs, the participation of the university in the preparation and submission of individual and joint applications with foreign partners for research grants. To this end, the university, within the framework of the Erasmus KA01, Erasmus KA02, Mevlana, Tempus-Tasis, DAAD program, is working on the implementation of the project «Exchange between Turkish universities and other universities in the world, teachers (professors) - students (undergraduates, doctoral students)».

The university attracts foreign prominent scientists from world universities to read lectures according to the program for attracting foreign scientists.

The material and technical base of the university consists of 4 educational and laboratory buildings with modern classrooms, computer classes; libraries with electronic reading rooms and free Internet access; an educational television studio; a sports complex with gyms and games rooms, a swimming pool, outdoor sports grounds, and spacious food outlets; hostels for students; medical clinic.

On the base of the university, there are two research institutes and a lyceum of "Young talents" in the city of Baku, educational and practical centers in the city of Guba, and the village of Altiagach.

The university has a corporate computer network designed to unite educational buildings into a single information space and provide access to information resources of the university and the Internet, a wireless Wi-Fi network function.

### **Location of the legal entity:**

Az-1148, Azerbaijan Republic,  
Baku, Akademik Zahid Xəlilov küçəsi – 23

**Tel.:** (012) 539 08 58, (012) 539 05 17

Website: [www.bsu.edu.az](http://www.bsu.edu.az)

E-mail: [info@bsu.edu.az](mailto:info@bsu.edu.az)

## **CHAPTER 2**

### **REPORT ON THE EXTERNAL REVIEW BY THE EXPERT GROUP**

---

#### ***Introduction***

The Department of Physical and Colloidal Chemistry has been training specialists for various branches of the national economy since 1935. The Department organizes its work in accordance with its mission, which is to carry out educational and research activities for the training of scientific and scientific-pedagogical specialists with fundamental knowledge in the field of physical and colloidal chemistry.

The department trains specialists in the following areas: Bachelor's degree in Chemistry, Chemistry Teacher, Chemical Engineering; Master's degree in Physical Chemistry, Chemical Kinetics and Catalysis, Electrochemistry, Colloidal Chemistry; Doctoral degree in Physical Chemistry, Chemical Kinetics and catalysis. According to the educational program "Physical Chemistry", the training of masters has been conducted since 1997.

The priority of BSU is integration into the global scientific and educational system. The University participates in student exchange programs with foreign partner universities, carries out joint research, and joins international and interregional educational programs.

The educational program is developed in accordance with the stated mission and with the strategic plan for the development of the university. The objectives of the educational program are harmonized with the national qualifications framework and the Dublin Descriptors.

The teaching staff of the department has a high scientific potential, professional training, significant experience in teaching and methodological, scientific and organizational work, owns modern innovative, information and educational technologies and teaching methods. Professors and associate professors of the department, employees of enterprises and scientific organizations who are actively engaged in scientific research in the field of physical chemistry and have experience in scientific management are involved in the educational process and scientific management.

The level of readiness of graduate students of the educational program and their demand in the labor market is confirmed by positive reviews of production managers. The structure and content of the modular educational program meet the requirements of the regulatory documents of postgraduate education.

The university has launched a program to attract talented young scientists, including those who have received education abroad, to spread the best academic and scientific practices at the university.



## *Compliance with the program accreditation standards*

### **Standard 1. Policy in the area of quality assurance of the educational program and academic integrity**

#### *Analysis and evidence:*

The Rector's introductory speech during the virtual visit was complimentary and very informative on the Baku State University (BSU) goals and policy to assure the quality of the educational program. For instance, on the strategic measures towards achieving the title/status of Research University, which included the construction of an Excellence Centre, the collaboration of foreign institutions and staff, and the cooperation with relevant research units namely of the Azerbaijan National Academy of Sciences (ANAS).

The educational quality and academic integrity policies of the Department of Physical Chemistry naturally are aligned with those of the BSU itself and benefit from the general facilities and measures that are made available. For instance, the Department for Quality Assurance and Monitoring coordinates the quality assurance system of the BSU.

The activities of the faculties and departments are elaborated at meetings of the Academic Council and of the Educational and Methodological Council, where management decisions are taken.

Internal audits are undertaken annually, in which all the departments are checked towards the assessment of the quality management system.

The faculties, departments and teachers are rated annually and the best ones are distinguished with awards of the type of the "Best Faculty", the "Best Department", the "Best Structural Unit", the "Best Teacher of the Year", the "Best young Lecturer" of the Year. It was additionally discussed during the interview with the faculty members.

Anti-corruption control is also assured by defining rules of conduct for the university staff and for the students, and by using anti-plagiarism software to monitor theses and course works. Master's students confirmed their awareness of the university's academic integrity policy.

The Educational Program of the Department of Physical Chemistry is aligned with the Dublin descriptors for the seventh level (master's level or second cycle).

Internal quality monitoring at the department is assured by analyses/discussions at regular meetings concerning the achievement of goals, the teaching methods and their support (including the available textbooks, manuals, lecture notes, discipline programs), the laboratory equipment, the students independent work, their level of satisfaction, the results of midterm and final certification of the students.

Survey questionnaires to monitor their level of satisfaction are addressed to the students and teaching staff. In addition, a connection between the students and the Rector is possible via the university website (personal block of the Rector).



Moreover, employment expectations in the labor market are also a concern of the Department which promotes a tripartite agreement involving the student, the University and an enterprise or organization that can provide training and employment (employer). Hence, the employers can also participate in the implementation of the educational program. The first and the most important is their participation in the offer of suitable elective courses for the educational program.

For quality assurance, the Department involves all the types of stakeholders (teaching staff, students, alumni and employers) to the implementation of internal quality assurance.

The Department is also alert to guidelines and changes to the management system emanated from the Academic Council of the BSU.

In conclusion, the activities of the Department of Physical and Colloidal Chemistry are well aligned with the mission, goals and strategic plans of the Baku State University. The audit showed full compliance of the university's activities and, in particular, the educational program "Physical Chemistry" with the accreditation standards for the implementation of the policy in the field of quality assurance and academic integrity. What is also important, all respondents of the interview were well aware of the policies within the university, which indicates timely and regular informing of all stakeholders and a high-quality tool for information dissemination.

***Positive practice:***

The involvement of the Rector and Vice-Rectors, apart from the Dean, Heads of Departments and Structural Divisions, and of all the other stakeholders (including the academic staff, students and potential employers) in the quality assurance process.

***Areas of improvement:***

A special focus to boost internationalization is recommended, which can assume various forms, e.g., the establishment of protocols of cooperation with foreign universities, settlement of Dual Master degrees, exchange of students and academic staff, and undertaking joint research projects.

**Level of the compliance – full compliance.**

**Standard 2. Development and approval of the educational program, information management**

***Analysis and evidence:***

The information on the educational program concerns mainly the academic and pedagogical issues, including courses (compulsory and elective ones), subjects, credits, as well as the corresponding information management. The research component is not detailed possibly on account of its variable and changing nature.

Although the educational program under evaluation is of the responsibility of the Department of Physical and Colloidal Chemistry, aligned with the university, its

development intends to involve all the interested players which include the teaching staff of this department and of the other serving departments, and representatives of the students and of the employers.

The contents of the educational program are discussed at department meetings, considered also at the educational and methodological commission of the school, the educational and methodological council of the university, and are approved by the academic council.

Various documents are made available, for example, a typical curriculum, the methodological indicators, a course syllabus, lecture materials, list of tests and examination questions, methodological recommendations, list of specialized classrooms and laboratories.

The structure of the curriculum is aligned with the Bologna Process, being based on the European Credit Transfer and Accumulation System (ECTS), thus helping the students' mobility and the recognition abroad of their academic qualifications.

The Master program (2 years) corresponds to a total of 120 ECTS credits with the following distribution: 90 (theoretical) + 12 (practice, being 6 for pedagogical and 6 for research practice) + 18 (thesis).

Apart from the major disciplines (76 credits = 42 for compulsory disciplines + 24 for optional ones), it also comprises humanities and social ones (14 credits), thus contributing to the complementary personal development of the students.

1 credit is equivalent to 30 academic hours, which include 12-15 contact hours + 18-15 hours for independent work.

25-30% of the total number of hours are allocated to elective courses. During the interview students answered that they have the opportunity to choose elective courses based on their research interests, thesis and needs. The study of documentation shows that the offered disciplines are appropriate.

It is important that the research practice is open to the exterior, being undertaken not only in scientific laboratories of the BSU but also as internships at other universities and/or appropriate research organizations and companies. This helps students integrate more smoothly into the global research space and form clearer research interests already in the master's program to continue research in the doctoral program.

Attention is also paid to the student's independent work (MIW) to promote self-education, self-development, and independence which are important gains for professional life.

Development of soft skills is also an aim of the education program, through the encouragement of the students, for instance, to participate in scientific and social events, to present their works, etc. However, further effort towards this aim is recommended.

The assessment of the quality of the educational program is assisted by conducting a survey for the employers' satisfaction, questionnaires to the students and systematic monitoring their training through various methods (tracking

attendance, performance, deliverables, etc). The employability of the graduates is also monitored. This helps to analyze statistics on the competitiveness of graduates in the labor market in order to further update the content of the educational program and the disciplines included in it.

Invitation of external members for the State Examination Commission (SEC) and the State Attestation Commission (SAC) also contributes to assure the quality of the education program.

The educational program management is accessible to the students and the other stakeholders, and, e.g., the Head of the department and the faculty Dean are easily reachable by e-mail or scheduled visits. This openness allows students to receive the necessary support during the learning process. Moreover, the information on the management decisions is brought to the students by using various possible channels.

However, the legal obligation of writing the theses in Azerbaijan language, which was understood during the visit, is fully incompatible with the need of internationalization, including, e.g., the attraction of foreign students and the international recognition of the degree. Since this is approved at the national level, this comment cannot apply to an educational program or a university. However, the university can submit its proposals to the body regulating the issues of higher and postgraduate education in the Republic of Azerbaijan.

In conclusion, the activities of the Department of Physical Chemistry fully comply with the criteria proper for the Standard 2 of the IQAA concerning the “Development, Approval of the Educational Program and Information Management.

***Positive practice:***

- The alignment of the structure of the curriculum with the Bologna Process, based on the European Credit Transfer and Accumulation System (ECTS), helps the students’ mobility and the recognition abroad of their academic qualifications.
- A course modular structure and the offer of optional disciplines that the students can choose is also a positive feature, as well as opening the research practice to the exterior.

***Areas of improvement:***

- Special attention to foster the students’ soft skills is recommended, which can assume various forms, e.g., expression in English language whenever appropriate, namely in internal scientific discussions, oral presentations of scientific work, written reports and theses.
- Promote a proposal at the legislative level to allow Master’s students to write their master theses in English what will increase the internationalization of the educational programs and the university in general.

**Level of the compliance – full compliance.**

### **Standard 3. Student-centered learning, teaching and assessment**

#### ***Analysis and evidence:***

A student-centred learning is followed, comprising diverse tools, such as classes, seminars, presentations, internships, team work, independent work, etc.

The academic year is divided in two semesters (autumn and spring, each of them with a duration of 15 weeks). An extra summer semester (maximum of 6 weeks), as explained during the visit, can be offered voluntarily, providing an opportunity to the students who have failed to complete the study/examination in the same academic year. The examination period is of 15 weeks.

The expected overall student workload is 45 h per week, of which 12-16 hours are allocated to classroom hours. 120 ECTS credits are required for the Master degree. This is in line with generally accepted standards for academic workload. For the research practice discipline (number 20 in the curriculum, appendix 3) are allocated 6 ECTS credits (45 h, 4 weeks), whereas for the preparation and defense of the thesis, 18 ECTS credits (135 h, 12 weeks) are assigned.

Employers are invited to attend the department meeting to discuss the proposed elective disciplines, and the compilation of the catalog of elective disciplines (CED) is of the responsibility of the graduating department. It allows students to receive more competitive skills that will be highly demanded in the labor market.

The list of compulsory and elective disciplines fits the aims of the educational program, in both the general and the specialty terms.

An individual curriculum (IC) for each student is chosen with the help of a tutor, and it can be revised annually, if necessary. If a selected discipline does not open, the student can enroll in an alternative one which is available.

The student can refuse (drop) the chosen disciplines/teachers and, with the tutor's agreement, a re-registration updated accordingly can be carried out at the beginning of the semester.

The students should gain a solid knowledge on Physical Chemistry and their progress is monitored by assessment concerning the knowledge acquired in the classroom and extracurricular activities. During the interview graduate students expressed their interest to the study and satisfaction with the educational and learning process.

The student master independent work (MIW) is an important component of the educational system and is performed in part under a teacher's guidance (MIWT), depending on the discipline.

Students can assess the quality of teaching through online questionnaires what is also important taking into account student-centered approach. By this, students can express their opinion on the teaching methods of particular faculty members and help them to adjust to the students' needs and interests.

An appeal procedure has been defined, allowing the students to complain on the examination results or final assessment. According to the interview, each appeal

from the students is carefully examined, registered and resolved with the participation of the relevant parties.

The main results of the Master thesis have to be presented in at least 2 publications and/or 2 oral presentations at a scientific-practical conference.

On account of the pandemic situation, the classes and the exams have been organized virtually since April 2020, using online platforms. During the external review, it was figured out that the distance mode of work is well-organized, the university can provide the necessary support to the graduate students and teachers. Also, a mixed way of working allows Master's students of the educational program "Physical chemistry" to continue working in the laboratories in order to pursue their research.

A point-rating letter system (maximum of 100 score for each discipline) is followed and the obtained marks are included in the student academic transcript.

The comparative analysis of the students achieved outcomes is undertaken at department meetings, at the Academic Council of the Faculty and at the Academic Council of the BSU.

During the audit, there was raised by employers a recommendation to promote the practical training and the applied research character of the graduates. However, this issue should be taken cautiously in order to avoid the risk of lowering the high level of the required solid scientific knowledge.

In conclusion, the activities of the Department of Physical Chemistry fully comply with the criteria proper for the Standard 3 of the IQAA concerning the "Student-centered Learning, Teaching and Assessment".

***Positive practice:***

- The offer of a third (voluntary) semester to "fish" the students who had failed, providing an opportunity to them to pass in the same academic year.
- The invitation of potential employers in the job market to discuss the offer of the elective disciplines.

***Areas of improvement:***

- The opening of the third (Summer) semester on a voluntary basis is a favorable measure to the students but it requires an extra effort to the teaching staff whose availability should be appreciated. Moreover, such a semester can possibly also account for the completion of the educational program in case this could not be fully achieved due to the current pandemic situation, as possibility that can be explored if this situation will occur.
- Promotion of the practical training and the applied research character of the graduates.

**Level of the compliance – full compliance.**

## **Standard 4. Students admission, learning outcomes, recognition and qualifications**

### ***Analysis and evidence:***

The student admission is undertaken by the State Examination Centre, on a competitive basis, in accordance with exams on the knowledge of specialty and a foreign language. This fully complies with the established standards and the objectivity of the admission of applicants.

The progress of the students is monitored by the department, together with the Dean's office, the Centre for organization and Management of the Educational Process, the Department of Master and Doctoral Studies. These bodies conduct various activities to assist the students, such as a guidebook, career guidance actions, booklets, information posted in the media, Open Days, etc. The expert group had the opportunity to examine the documents on recruiting new students.

The University offers a system of academic services for students, including language competencies, short courses, social and cultural events, as well as a system of assistance to the students who did not meet the academic requirements.

Master's students can provide independent assessment through questionnaires, and the Quality Assurance and Monitoring Department can solve problems of quality assurance.

The Department of Master and Doctoral Studies (Career Sector, Practice and Alumni Relations) provides statistical data on student performance, employment and employers' satisfaction. It also deals with pre-university training and career guidance to schoolchildren.

The Department of Physical and Colloidal Chemistry monitors its students' activities and fosters their interaction with employers.

The academic mobility is supported by the cooperation established between the BSU and relevant educational institutions in Azerbaijan and abroad. The university has over 200 agreements with the universities around the world on academic mobility programs.

The learning outcomes/competencies of the Master graduates comply with the Dublin descriptors for the Master cycle. They are expressed at the levels of the program and of individual disciplines.

The thesis defense is undertaken before the state certification commission, being mandatory for the issue of the diploma. This diploma and its appendix include the awarded qualifications, learning outcomes and disciplines credits. Master's students receive Diploma Supplement when graduation from the program what is one of the parameters of the Bologna process.

A maximum of 30% of borrowing is accepted for the text of the thesis, beyond which plagiarism is assigned.

The marks obtained in defense of the Master thesis are very high, with the maximum average score (100 points) for the 4 graduates in 2018-2019 of the

Department of Physical and Colloidal Chemistry. This certainly indicates a high level of training of graduates.

In conclusion, the activities of the Department of Physical Chemistry comply with the criteria proper for the Standard 4 of the IQAA concerning the “Students admission, learning outcomes, recognition and qualifications”, but further effort should be oriented towards the goals indicated above.

***Positive practice:***

Developing the students’ conscience and concerns about plagiarism, assurance and monitoring of anti-plagiarism constitute particularly good ethical practices.

***Remarks:***

Lack of information on the level of employment of the alumni graduated in the last few years.

***Areas of improvement:***

- It is suggested the inclusion, in the information provided, of the level of employment of the alumni graduated in the last few years: situation (enrolled or not on a PhD program; employed or not), position, type of activity or employment sector.
- The University and the Department are strongly encouraged to boost student mobility, including that with an international character, what is considered to be of a high significance in the educational program.

**Level of the compliance – significant compliance.**

### **Standard 5. Teaching staff**

***Analysis and evidence:***

General information at the BSU level on recruitment, quality and types of activities of the teaching staff are given in the self-assessment report. The site visit allowed to clarify the teaching load (which appeared to be excessive on the basis of some information of the report), the time quota devoted to research, the categories of the academic staff and the type of contract (permanent/tenure or on a temporary basis).

The quota of working time that is expected to be dedicated to research (as understood from the report) could be viewed as insufficient, but the staff who were interviewed considered it to be acceptable.

The academic staff includes the position of Teacher that can be filled by PhD students who assist the laboratory and practical classes.

The results of research by undergraduates of this department are published in international and national journals and presented in international and local conferences. From 2017 to 2019 the total number of annual deliverables lies between



70 and 76, but a significant drop has occurred in 2020, conceivably as a result of the pandemic situation.

The teaching at the department is open to collaborations from outside the university and qualified specialists from leading institutions are invited to conduct classes and supervise theses.

The university teachers are subject to annual certification and the teaching quality is assessed through classes attended by heads of department, checking by the organizational and methodological commission, conducting open classes at the beginning of the semester (which are filmed), mutual visits, apart from the student questionnaires.

Incentives are provided, namely rewards for publications in indexed journals with a high impact factor, as well as honorary titles such as “Best Scientist”, “Best Teacher”, “Best Young Teacher”, etc., apart from distinctions by the President of the Republic of Azerbaijan (namely awarded to the Head of the Department) or by the Minister of Education.

Social incentives are also addressed to the teaching staff. This was emphasized during interviews with teachers. Incentives have a very beneficial effect on the effectiveness of teachers' work.

According to the table with the average salaries of the teaching staff in the last three years show that the average salary of teachers is quite competitive.

The members of the academic staff are highly qualified and competent, as evidenced in the interviews, what is a main requirement for the success of the educational program.

Offering the possibility of staff moving (*e.g.*, on sabbatical leave) to join a foreign research institution, thus fostering mobility and international cooperation, is a positive practice that was illustrated with fruitful cases (*e.g.*, within the Department of Analytical Chemistry) during the visit.

In conclusion, the activities of the Department of Physical Chemistry fully comply with the criteria proper for the Standard 5 of the IQAA concerning the “Teaching Staff”.

***Positive practice:***

- The possibility of staff moving to join a foreign research institution, thus fostering mobility and international cooperation
- The inclusion in the academic staff categories of a position (Teacher) that can be offered to PhD students to assist in the laboratory and practical classes.
- The opening of teaching to external staff, namely invited qualified specialists from other leading institutions to collaborate in teaching and (co-)supervise theses.
- The offer of incentives to academic staff, concerning teaching and research activities.

***Areas of improvement:***

- Fostering the staff mobility, including that with international character;

- Decreasing the staff average age, by continuing to encourage PhD students and young researchers (e.g., post-docs) to collaborate in teaching activities (namely assisting in practical and laboratory classes) and by recruiting staff at an age considerably below the average one (which is 65 in this Department);
- Making easily available and disseminating inside and outside the University a list (in English language) of the research interests and projects of the academic staff members, including those that can house Master thesis works.

### **Level of the compliance – full compliance.**

## **Standard 6. Learning resources and student support**

### ***Analysis and evidence:***

A detailed and convincing description of the student training and support resources is provided by the Report, showing the adequacy of the classrooms, auditoriums, large halls and conference rooms, laboratories, research analytical infrastructures, computer facilities, sports complexes, gyms, reading rooms, internet, library, student residences, student polyclinic, canteens (for 1560 seats), etc.

The library facilities are noteworthy. The BSU Scientific Library is a major infrastructure, being served by rich electronic resources (Electronic Library), accessible to the students. Its fund comprehends over 2 million and one thousand copies, mostly on scientific literature (52%), followed by educational literature (37%), fiction (10%) and rare books and manuscripts (1%).

The libraries of other universities and of the Azerbaijan National Academy of Sciences (ANAS) are also accessible.

The access to world databases, e.g., Thomson-Reuters and Scopus, is assured by the internet facilities (both wired and wireless Wi-Fi networks).

Career guidance is provided by the Career, Practice and Alumni Relations Sector, as well as by the Department which searches the needs of labor market, organizes job fairs, open days, meetings of students with potential employers.

The students' mobility is assisted by the Center for the Bologna Process and Academic Mobility, whereas other supporting structures also at their disposal, such as, the Center for the Organization of Scientific Activities and Innovations, the Department for Quality Assurance and Monitoring, etc.

Tutors and scientific advisers (the latter appointed by the university) assist the students in the educational program. During the visit it was also clarified the assistance to students with disabilities. The development of inclusive education is at the proper level at the university.

The management of the university is operated by an information system that provides the required support to the automation of the education process governance.

In conclusion, the students appear to have adequate facilities which fully comply with the criteria proper for the Standard 6 of the IQAA concerning the "Learning resources and student support".

***Positive practice:***

- The wide scope of the offer, to the students, not only of purely academic services but also of services of medical, sports, social and cultural nature, accommodation and eating (canteens).
- Within the academic services, the Library facilities are noteworthy.

***Areas of improvement:***

Organization by the University of courses of scientific English language is a recommended facility to support the students learning and to develop their soft skills and international mobility.

**Level of the compliance – full compliance.**

**Standard 7. Public information**

***Analysis and evidence:***

Useful public information about the university, its faculties and educational programs can be found at their websites. However, at least in English language, the information often is not easily accessible and incomplete. Social networks are also used.

In particular, the Department of Physical and Colloidal Chemistry provides information on its activities through the university and faculty of chemistry websites, publications in the “Baku University” newspaper, brochures, round tables, conferences and media.

Regular public information concerns employability matters, such as trends in labor market and employment monitoring.

The students have also easy access to all the required information as indicated in the previous Standard.

In conclusion, the public information contents and routes comply with the criteria proper for the Standard 7 of the IQAA.

***Positive practice:***

Use of a wide diversity of possible modes of communication to assure public information.

***Areas of improvement:***

- The University, Faculty and Departments are strongly encouraged to improve their websites, making them appealing, updated and more informative, and moving towards their full translation in the English language in order to promote the international visibility and cooperation.

- Individual weblinks/webpages of public access should be created (in English or with the corresponding English versions) for all the members of the academic staff and all the researchers.

**Level of the compliance – full compliance.**

## CHAPTER 3

### CONCLUSION

---

**Remarks and areas of improvements of expert group by the end of the external review:**

**Standard 1. Policy in the area of quality assurance of the educational program and academic integrity - Full compliance.**

***Areas of improvement:***

A special focus to boost internationalization is recommended, which can assume various forms, e.g., the establishment of protocols of cooperation with foreign universities, settlement of Dual Master degrees, exchange of students and academic staff, and undertaking joint research projects.

**Standard 2. Development and approval of the educational program, information management - Full compliance.**

***Areas of improvement:***

- Special attention to foster the students' soft skills is recommended, which can assume various forms, e.g., expression in English language whenever appropriate, namely in internal scientific discussions, oral presentations of scientific work, written reports and theses.

- Promote a proposal at the legislative level to allow Master's students to write their master theses in English what will increase the internationalization of the educational programs and the university in general.

**Standard 3. Student-centered learning, teaching and assessment - Full compliance.**

***Areas of improvement:***

- The opening of the third (Summer) semester on a voluntary basis is a favorable measure to the students but it requires an extra effort to the teaching staff whose availability should be appreciated. Moreover, such a semester can possibly also account for the completion of the educational program in case this could not be fully achieved due to the current pandemic situation, as possibility that can be explored if this situation will occur.

- Promotion of the practical training and the applied research character of the graduates.

#### **Standard 4. Students admission, learning outcomes, recognition and qualifications - Significant compliance.**

##### ***Remarks:***

Lack of information on the level of employment of the alumni graduated in the last few years.

##### ***Areas of improvement:***

- It is suggested the inclusion, in the information provided, of the level of employment of the alumni graduated in the last few years: situation (enrolled or not on a PhD program; employed or not), position, type of activity or employment sector.
- The University and the Department are strongly encouraged to boost student mobility, including that with an international character, what is considered to be of a high significance in the educational program.

#### **Standard 5. Teaching staff - Full compliance.**

##### ***Areas of improvement:***

- Fostering the staff mobility, including that with international character;
- Decreasing the staff average age, by continuing to encourage PhD students and young researchers (e.g., post-docs) to collaborate in teaching activities (namely assisting in practical and laboratory classes) and by recruiting staff at an age considerably below the average one (which is 65 in this Department);
- Making easily available and disseminating inside and outside the University a list (in English language) of the research interests and projects of the academic staff members, including those that can house Master thesis works.

#### **Standard 6. Learning resources and student support - Full compliance.**

##### ***Areas of improvement:***

Organization by the University of courses of scientific English language is a recommended facility to support the students learning and to develop their soft skills and international mobility.

#### **Standard 7. Public information - Full compliance.**

##### ***Areas of improvement:***

- The University, Faculty and Departments are strongly encouraged to improve their websites, making them appealing, updated and more informative, and moving towards their full translation in the English language in order to promote the international visibility and cooperation.

- Individual weblinks/webpages of public access should be created (in English or with the corresponding English versions) for all the members of the academic staff and all the researchers.



**PROGRAM**  
**of the external audit of the IQAA expert group**  
**to Baku State University**  
**in the frames of program accreditation**  
**March 15-16, 2021**

Time	Activity	Participants	Place
<i>Day 1: March 15, 2021</i>			
9:50* (11.50**)	Arrival at the University	H, EG, C	Office of the EG
10:00-11:00 12:00-13:00	Briefing, discussion of organizational issues	H, EG, C	Office of the EG Link for the conference
11:00-11:30 13:00-13:30	Interview with the Rector of the University	H, EG, C, Rector	Rector's office Link for the conference
11:30-11:45 13:30-13:45	Discussion, exchange of views of the members of the external expert group	H, EG, C	Office of the EG Link for the conference
11:45-12:15 13:45-14:15	Interview with the vice-rectors of the University	H, EG, C, Vice-rectors	Conference hall Link for the conference
12:15-12:30 14:15-14:30	Discussion, exchange of views of the members of the external expert group	H, EG, C	Office of the EG Link for the conference
12:30-13:00 14:30-15:00	Interview with heads of structural divisions	H, EG, C, Heads of structural divisions	Office of the EG Link for the conference
13:00-14:00 15:00-16:00	Visual review of the material and technical, educational and laboratory facilities in the areas of accredited educational programs	H, EG, Dean of the Faculty, Heads of departments	Campus Link for the conference
14:00-15:00 16:00-17:00	Lunch	H, EG, C	
15:00-15:30 17:00-17:30	Interview with the Dean and heads of departments	H, EG, C, Dean, Heads of departments	Office of the EG Link for the conference
15:30-15:45 17:30-17:45	Discussion, exchange of views of the members of the external expert group		Office of the EG Link for the conference
15:45-16:15 17:45-18:15	Interviews with teaching staff of departments in the areas of accredited educational programs	H, EG, C, Faculty	Office of the EG Link for the conference
16:15-16:30 18:15-18:30	Discussion, exchange of views of the members of the external expert group	H, EG, C	Office of the EG Link for the conference
16:30-17:00 18:30-19:00	Interview with Master students	H, EG, C, Master students	Office of the EG Link for the conference
17:00-17:15 19:00-19:15	Discussion, exchange of views of the members of the external expert group	H, EG, C	Office of the EG Link for the conference
17:15-17:45 19:15-19:45	Interview with graduates	H, EG, C, Graduates	Office of the EG Link for the conference

17:45-18:00 19:45-20:00	Discussion, exchange of views of the members of the external expert group	H, EG, C	Office of the EG Link for the conference
18:00-18:30 20:00-20:30	Interview with employers	H, EG, C, Employers	Office of the EG Link for the conference
18:30-18:45 20:30-20:45	Discussion, exchange of views of the members of the external expert group	H, EG, C	Office of the EG Link for the conference
<b>Day 2: March 16, 2021</b>			
9:50* (11.50**)	Arrival at the University	H, EG, C	Campus
10:00-11:00 12:00-13:00	Visit to the Center for the organization and Management of the educational process. Selective attendance of lessons	H, EG, Staff, Faculty, Master students	Office of the EG Link for the conference
11:00-11:15 13:00-13:15	Discussion, exchange of views of the members of the external expert group	H, EG, C	Office of the EG Link for the conference
11:15-11:45 13:15-13:45	Selective visits to research laboratories	H, EG, C, Representatives of practice bases	Office of the EG Link for the conference
11:45-12:15 13:45-14:15 12:15-12:45 14:15-14:45 12:45-13:15 14:45-15:15	Invitation of heads of departments at the request of experts: 1. Head of the Department of «Organic Chemistry» - Abel Magerramov, Doctor of Chemical Sciences, Academician 2. Head of the Department of «Chemistry of High-Molecular Compounds» - Rassim Alossmanov, Doctor of Chemical Sciences, Professor 3. Head of the Department of «Oil Chemistry and Chemical Technology» - Ibragim Mamedov, Doctor of Chemical Sciences, Professor	H, EG, C	Office of the EG Link for the conference
13:15-14:00 15:15-16:00	Discussion, exchange of views of the members of the external expert group	H, EG, C	Office of the EG Link for the conference
14:00-15:00 16:00-17:00	Lunch	H, EG, C	
15:00-18:30 17:00-20:30	Discussion, exchange of views of the members of the external expert group. Investigation of documentation on accredited educational programs. Invitation of individual representatives of departments and structural divisions at the request of experts. Preparation of external audit reports	H, EG, Heads of Departments, Heads of structural divisions	Office of the EG Link for the conference
20:30-21:00	Meeting with the Head and managements of university to present preliminary results of the external audit	H, EG, C	Rector's office Link for the conference

## INTERVIEW PARTICIPANTS

**Responsible for the programme accreditation**

<b>№</b>	<b>Full name</b>	<b>Position</b>	<b>Academic degree, title</b>
1	Abdulsaid Azizov	Dean	Doctor of Chemical Sciences, Prof.

**University Leadership**

<b>№</b>	<b>Full name</b>	<b>Position</b>	<b>Academic degree, title</b>
<b>Rector</b>			
1	Elchin Babaev	Rector	Doctor of Philosophy in Physics and Mathematics, Associate Professor
<b>Vice-rectors</b>			
2	Irada Alieva	Vice-rector for the organization of the educational process and learning technologies	Doctor of Biological Sciences, Professor
3	Gussein Mamedov	Vice-rector for Science and Innovation	Doctor of Physical Sciences, Professor
4	Shahin Panakhov	Vice-rector for international relations	PhD in Geography, Associate Docent
5	Alish Agamirzaev	Vice-Rector for Social Affairs, Student Affairs and Public Relations	Doctor of Philosophy in Philology, Docent

**Heads of structural divisions**

<b>№</b>	<b>Full name</b>	<b>Position</b>	<b>Academic degree, title</b>
1	Adil Khassaev	Head of the department of organization of the educational process	Candidate of Geological and Mineralogical Sciences
2	Farkhad Aidynly	Head of the department for work with tutors	
3	Vagif Gassymov	Head of Quality Assurance and Monitoring Department	PhD in Physics and Mathematics
4	Arif Sadykhov	Head of the Psychological Aid Sector	
5	Ramin Samedov	Head of the Department of Humanitarian Affairs and Youth Policy	
6	Mais Suleimanov	Director of the Center for Organization of Scientific Activity and Innovation	Doctor of Physical and Mathematical Sciences
7	Afet Mamedova	Head of the Department of Master's and Doctoral Studies at the Center for Organization of Scientific Activity and	Doctor of Biological Sciences, Professor

		Innovation	
8	Rauf Gassanov	Head of the Department of International Relations	Doctor of Philosophy in Historical Sciences, Docent
9	Azbar Sadaev	Information Technology Center Director	Candidate of Physical and Mathematical Sciences, Docent
10	Shahin Askerov	Head of the Internet Technologies Department of the Information Technology Center	
11	Gunel Orudzhaliyeva	Head of Public Relations and Information Department	
12	Nigiyar Ismailova	Director of the Scientific Library	Doctor of Philosophy in Historical Sciences
13	Mustafa Muradov	Head of the Research Center for NanoResearch	Candidate of Physical and Mathematical Sciences, Docent
14	Iliyas Nasibov	Director of the Center for Student Scientific and Technical Creativity	

### Teachers

№	Name and surname	Position	Academic degree, title
<b>Head of the department</b>			
1.	Eldar Akhmedov	Head of the department «Physical chemistry»	Doctor of Chemical Sciences, Professor
<b>Teachers</b>			
2.	Sabit Mamedov	Professor of the Department of Physical Chemistry	Doctor of Chemical Sciences, Professor
3.	Dzhebrail Mirzai	acting professor "Physical chemistry"	Doctor of Chemical Sciences, Professor
4.	Sakina Mirzaliyeva	Docent of the Department of Physical Chemistry	Candidate of Chemical Sciences, Associate Professor
5.	Talekh Gakhramanov	Docent of the Department of Physical Chemistry	Candidate of Chemical Sciences, Associate Professor
6.	Fuad Kerimli	Docent of the Department of Physical Chemistry	Candidate of Chemical Sciences, Associate Professor
7.	Yashar Shahverdiev	Docent of the Department of Physical Chemistry	Candidate of Chemical Sciences, Associate Professor
8.	Kabira Iskenderova	Teacher "Physical chemistry"	-
9.	Almaz Mustafaeva	Docent of the Department of Physical Chemistry	Candidate of Chemical Sciences, Associate Professor
10.	Arzukhanym Mirzaeva	Senior laboratory assistant "Physical chemistry"	Doctor of Physical Chemistry
11.	Giyunai Mamedova	Researcher "Fine organic synthesis"	Doctor of Physical Chemistry

### Master's students

№	Name and surname	Speciality, Year, (GPA)
1.	Kamran Bagirzade	«Physical Chemistry» 1 Year, rus
2.	Aidan Abdullaeva	«Physical Chemistry»

		1 Year, az
3.	Khanyam Mamedzade	«Physical Chemistry» 1 Year, az
4.	Nurai Gassanova	«Physical Chemistry» 2 Year, az
5.	Khanyam Mamishova	«Physical Chemistry» 2 Year, az
6.	Zarifa Mekhdiyeva	«Physical Chemistry» 2 Year, az
7.	Zaur Dzhamiyev	«Physical Chemistry» 2 Year, az

### Employers

<b>№</b>	<b>Corresponding member Academies</b>	<b>Work place, position</b>
1.	Tofiq Aliyev	Corresponding member Academies

### Alumnus

<b>№</b>	<b>Corresponding member Academies</b>	<b>Speciality, year of graduation</b>
1.	Immi Mamedov	2015 - 2017
2.	Bakhar Zulfugarova	2015 - 2017
3.	Tahira Gulieva	2016 - 2018
4.	Rashada Abdullaeva	2016 - 2018
5.	Nadzhabat Shukurlu	2017 - 2019
6.	Fidan Girbanova	2017 - 2019
7.	Rugiya Ibragimova	2018 - 2020
8.	Tamilla Zeinalova	2018 - 2020
9.	Sofiya Alieva	2018 - 2020
10.	Natiga Gulieva	2018 - 2020

**LIST OF ADDITIONAL DOCUMENTS**

1. Indicated websites at the self-assessment report.