



Accreditation Agency for Degree
Programs in Engineering,
Computer Science, Science and
Mathematics



ANALYTICAL REPORT

on the activities of the ASIIN for assessing quality in higher educational
institutions of the Republic of Kazakhstan

01.07.2019 – 15.04.2021

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1. ASIIN information

1.1 Profile and organization of ASIIN. The Accreditation Agency for Study Programmes in Engineering, Informatics, Natural Sciences and Mathematics (ASIIN e.V.) is a non-profit association founded in July 1999. Since then it has provided expert support to German and international universities in the implementation of accreditation procedures on the programme and institutional level. It is a leader nationally and internationally in the accreditation of programmes in engineering, the natural sciences, mathematics, computer sciences as well as in medicine and economics.

ASIIN is supported by an alliance encompassing universities, faculty associations, technical and scientific societies, professional organisations and business associations that are jointly committed to quality development in higher education. The ASIIN Industry Advisory Board supports the formulation of the requirements of professional practice for a modern university education.

Within ASIIN, universities and the business communities work together on an equal footing to develop internationally recognized quality standards; our subject-specific criteria are continuously developed and internationally coordinated in strategic partnership with university faculty associations. ASIIN thereby makes a decisive contribution to ensuring high educational standards and market transparency, while facilitating academic and professional mobility both nationally and internationally.

ASIIN is organized into 14 different subject-specific committees¹, each one with ten members. The members are appointed by the respective subject-specific member organizations, each member serving a term of three years.

Technical Committee 01 - Mechanical Engineering/Process Engineering

Technical Committee 02 - Electrical Engineering/Information Technology

Technical Committee 03 - Civil Engineering, Geodesy and Architecture

Technical Committee 04 - Informatics/Computer Science

Technical Committee 05 - Physical Technologies, Materials and Processes

Technical Committee 06 - Engineering and Management, Economics

Technical Committee 07 - Business Informatics/Information Systems

Technical Committee 08 - Agriculture, Nutritional Sciences and Landscape Architecture

Technical Committee 09 - Chemistry, Pharmacy

Technical Committee 10 - Life Sciences

Technical Committee 11 - Geosciences

Technical Committee 12 - Mathematics

Technical Committee 13 - Physics

Technical Committee 14 - Medicine

Experts interested in working as peers within the ASIIN network apply at the Technical Committee most suitable to their professional specialization. The Technical Committee then evaluates the application and decides whether the applicant should be added to the ASIIN experts' pool or not. For selected peers regular webinars and trainings are being offered from the ASIIN headquarter to prepare and update the peers for their tasks as reviewers. As a consequence, all our peers are not only experts within their respective profession but are highly skilled evaluators of educational institutions and programmes and experienced in the discussion of the ASIIN criteria and quality standards.

As an internationally recognized agency, ASIIN supports higher education institutions around the world offering a wide range of institutional accreditation services (with the possibility of ISO certification), accreditation of academic degree programs at the bachelor, master and PhD levels, as well as certification of a wide range of lifelong learning educational offers.

ASIIN is a full member in the European Association for Quality Assurance in Higher Education (ENQA) as well as in the European Quality Assurance Register for Higher Education (EQAR).

ASIIN strengths

- All of our accreditation decisions are promptly listed in the European-wide database of External Quality Assurance Results (DEQAR), which serves as the most important instrument for recognition decisions by the respective authorities in the 48 member countries of the European Higher Education Areas.
- ASIIN is the only international agency, which is authorized to deliver – next to its own acknowledged German seal – altogether five international quality seals. Among them are the European Quality Label of Engineers EUR-ACE® (Euroengineer), the label of the European Informatics Association in Quality Assurance EQANIE, Euro-Inf®, the European Chemistry-label Eurobachelor®/Euromaster® and the label of the Alliance of Medical Schools in Europe (AMSE).
- In the area of institutional accreditation, ASIIN has developed an internationally acknowledged “maturity model” catered to improving the quality of teaching, research and administration.

- Through our unique institutional membership and organizational structure, universities work hand in hand with technical associations, professional societies and industrial bodies in Germany and throughout Europe. Together we develop internationally recognized, learning outcome based, disciplinary grounded, accreditation criteria, which form the basis for our accreditation decisions.

1.2 International experience of ASIIN. During the past 20 years, ASIIN has acquired ample and specialized expertise in the Central Asia region and has established successful co-operations and partnerships with Universities, Accreditation Agencies and National Quality Assurance Councils in countries ranging from Mongolia in the East to Armenia in the West.

In the Republic of Kazakhstan alone, ASIIN have accredited 264 degree programmes, we have successfully participated in international Quality Development projects in the region such as ALIGN and QUEECA and have been consulting the Mongolian Ministry of Education in re-organizing their National Accreditation Agency between 2015 and 2018.

ASIIN has accredited degree programmes in more than 30 countries worldwide since 1999 and is a reliable partner in projects as well as evaluations all over the world. Just to provide some of our recent credentials, we have been assisting to develop practice-oriented engineering degree programmes in South Africa as part of the Erasmus+ project PEESA III, support government of Malta in developing their higher engineering education and evaluating several programmes of the German Academic Exchange Service (DAAD).

1.3 Expertise and ASIIN staff. With regard to methodological expertise gained through activities and projects of both organisations of the ASIIN-family, ASIIN staff members and volunteering ASIIN experts from universities and industry are well prepared

- to support benchmarking processes of different kind on different objects regarding quality and management of educational offerings,
- to conceptualize and facilitate stakeholder driven development of (sectoral) qualification frameworks

More than 200 experts from science and professional practice support the office with their professional expertise. All ASIIN committees are composed of representatives of universities, universities of applied sciences and professional practice on a tripartite basis.

The audit teams or expert groups for all procedures are formed on a case-by-case basis. The composition of a team is decided by the respective ASIIN expert committee. The technical fit of a team and the involvement of different stakeholders, including students, professors and professional practice are decisive. In order to staff its pool of experts and committees, ASIIN examines

proposals from member organisations and third-party organisations in Germany and Europe - for example, from faculty associations, professional societies or trade associations. To fill student representative positions, proposals from the student accreditation pool in Germany or the ESU (European Students' Union), as well as from the respective national student associations in a country are taken into consideration. At the ASIIN office in Düsseldorf, Germany, currently 14 staff members are working in project management and consulting with multiple years of experience.

In accordance with the Rules for the recognition of accreditation bodies, including foreign ones, and the formation of registers of recognized accreditation bodies, accredited educational organizations and educational programs, approved by Order of the Minister of Education and Science of the Republic of Kazakhstan No. 629 dated November 1, 2016, the expert commission includes at least one a third of Kazakhstani experts with PhD or Doctor of Science (PhD) degrees and / or representatives of the professional community with relevant professional experience.

To this end, ASIIN has formed a pool of Kazakhstani experts in relevant fields and conducts their education and training.

2. Activity of ASIIN in Kazakhstan

In the period from 01.07.2019 to 15.04.2021, within the framework of degree program accreditation by ASIIN expert groups, the procedure for evaluating **26 degree programs** of Auezov South Kazakhstan State University (Shymkent) and Almaty Technological University (Almaty) was carried out.

The number of programs by level is presented in the fig 1.

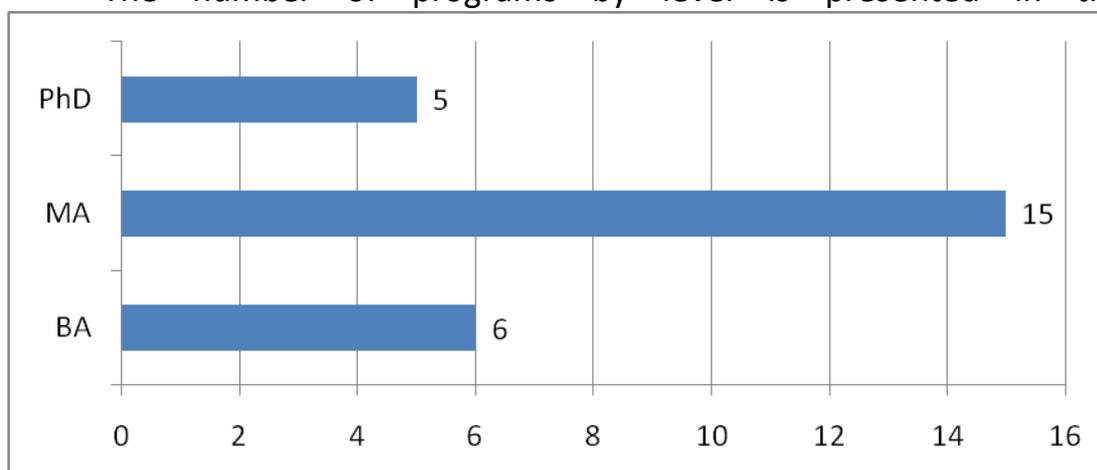


Figure 1. The number of degree programs that have passed the accreditation procedure in ASIIN

Within the framework of the levels, 6 Ba programs were considered 23.1%, 15 master's programs 57.7%, 5 PhD programs (19.2%).

Information on the programs under consideration in the context of universities is presented in Table 1.

Table 1. Information on the programs under consideration in the context of universities

Университет	Ba	Ma	PhD	Total
Auezov SKSU	6	5	-	11
Almaty Technological University	-	10	5	15
Total	6	15	5	26

The results of accreditation are presented in Table 2.

Table 2. Accreditation results

University	Кол-во ОП	Accreditation term Bachelor's degree			Accreditation term Master's degree			Accreditation term PhD degree			not accredited
		1 year	5 year	7 year	1 year	5 year	7 year	1 year	5 year	7 year	
Auezov SKSU	11			6*			2				3 Ma
Almaty Technological University	15				10			5			-
Total	26			6	10		2	5			

* 4 Ba programs were initially accredited for 1 year with an extension, in 2020 the programs submitted confirmation of the elimination of comments, as a result of which the accreditation period was increased to 7 years.

In general, out of 26 programs for the full term (7 years), 8 programs are accredited -30%, for a period of 1 year (with possible prolongation) - 15 programs -57.7%, not accredited -3 programs - 11.5%.

Accreditation decisions are presented in Table 3.

Table 3. Accreditation decisions made by the ASIIN Accreditation Board

iversity	Degree programm	Audi dates	
Auezov SKSU	Ba Biotechnologie	16. - 18.10.2019	Accredited until June 30, 2026, with partial compliance with ASIIN 4.3 (hardware requirements)
Auezov SKSU	Ba Ökologie	16. - 18.10.2019	Accredited until June 30, 2026, with partial compliance with ASIIN 4.3 (hardware requirements)
Auezov SKSU	Ma Biotechnologie	16. - 18.10.2019	Accredited until June 30, 2026, with partial compliance with ASIIN 4.3 (hardware requirements)
Auezov SKSU	Ma Ökologie	16. - 18.10.2019	Accredited until June 30, 2026, with partial compliance with ASIIN 4.3 (hardware requirements)
Auezov SKSU	Ba Chemische Technologie der anorganischen Stoffe	16. - 18.10.2019	Accredited until June 30, 2026, with partial compliance with ASIIN 4.3 (hardware requirements)
Auezov SKSU	Ba Chemische Technologie der organischen Stoffe	16. - 18.10.2019	Accredited until June 30, 2026, with partial compliance with ASIIN 4.3 (hardware requirements)
Auezov SKSU	Ba Chemische Technologie für schwerschmelzende nicht-metallische Stoffe und Silikate	16. - 18.10.2019	Accredited until June 30, 2026, with partial compliance with ASIIN 4.3 (hardware requirements)
Auezov SKSU	Ba Technologie und Konstruieren von Erzeugnissen der Leichtindustrie	16. - 18.10.2019	Accredited until June 30, 2026, with partial compliance with ASIIN 4.3 (hardware requirements)
Auezov SKSU	Ma Chemische Technologie der anorganischen Stoffe	16. - 18.10.2019	not accredited
Auezov SKSU	Ma Chemische Technologie der organischen Stoffe	16. - 18.10.2019	not accredited
Auezov SKSU	Ma Technologie und Konstruieren von Erzeugnissen der	16. - 18.10.2019	not accredited

	Leichtindustrie		
Almaty Technology University	PhD Technology of Food Products	03.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technology University	PhD Crop Processing Technology	03.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	PhD Technology and Design of Light Industry Products	03.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	PhD Technology and Design of Textile Materials	03.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	PhD Safety of Non-Food Goods and Products	03.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	Ma Technology of Food Products (1 year)	01-02.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	Ma Safety of Non-Food Goods and Products (1 year)	01-02.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	Ma Crop Processing Technology (1 year)	01-02.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	Ma Technology and Design of Light Industry Products (1 year)	01-02.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	Ma Technology and Design of Textile Materials (1 year)	01-02.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	Ma Technology of Food Products (2 year)	01-02.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	Ma Safety of Non-Food Goods and Products (2 year)	01-02.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological	Ma Crop Processing Technology (2 year)	01-02.10.2019 (online)	Accreditation before 16.07.2021 with requirements

University			
Almaty Technological University	Ma Technology and Design of Light Industry Products (2 year)	01-02.10.2019 (online)	Accreditation before 16.07.2021 with requirements
Almaty Technological University	Ma Technology and Design of Textile Materials (2 year)	01-02.10.2019 (online)	Accreditation before 16.07.2021 with requirements

Degree programs whose accreditation has been suspended are presented in Table 4.

Table 4 Degree programs which were not accredited

Title of HEI	Title of study programs which were not accredited	Please indicate reasons, why they were denied in accreditation
Auezov SKSU	Ma Chemische Technologie der anorganischen Stoffe	The ASIIN Accreditation Council confirms that the expected academic level is not achieved in the Master's degree programmes, which is primarily reflected in the insufficient quality of Master's theses. The technical equipment and infrastructure, which are in great need of improvement, also contribute to the fact that it is hardly possible to carry out academic work at an appropriate level for a Master's degree programme.
Auezov SKSU	Ma Chemische Technologie der organischen Stoffe	The ASIIN Accreditation Council confirms that the expected academic level is not achieved in the Master's degree programmes, which is primarily reflected in the insufficient quality of Master's theses. The technical equipment and infrastructure, which are in great need of improvement, also contribute to the fact that it is hardly possible to carry out academic work at an appropriate level for a Master's degree programme.
Auezov SKSU	Ma Technologie und Konstruieren von Erzeugnissen der Leichtindustrie	The ASIIN Accreditation Council confirms that the expected academic level is not achieved in the Master's degree programmes, which is primarily reflected in the insufficient quality of Master's theses. The technical equipment and infrastructure, which are in great need of improvement, also contribute to the fact that it is hardly possible to carry out academic work at an appropriate level for a Master's degree programme.

3.Recommendation

Ba Biotechnologie, Ba Ökologie, Ma Biotechnologie, Ma Ökologie (Auezov SKSU)

E 1. (ASIIN 1.3) Es wird empfohlen, die Englischsprachkenntnisse der Studierenden zu verbessern und mehr englischsprachige Elemente in die Studienpläne aufzunehmen.

E 2. (ASIIN 2.1) Es wird empfohlen, die akademische Mobilität der Studierenden weiter zu fördern.

E 3. (ASIIN 6) Es wird empfohlen, die Ergebnisse der Lehrevaluationen sowohl für die Weiterentwicklung des Studiengangs zu nutzen, als auch den Studierenden eine Rückmeldung dazu zu geben.

Ba Chemische Technologie der anorganischen Stoffe Chemische Technologie der organischen Stoffe Technologie und Konstruieren von Erzeugnissen der Leichtindustrie, Chemische Technologie für schwerschmelzende nicht-metallische Stoffe und Silikate(Auezov SKSU)

E 1. (ASIIN 1.3) Es wird empfohlen, die Englischkenntnisse der Studierenden zu verbessern und mehr englischsprachige Lehrveranstaltungen in das Curriculum zu integrieren.

E 2. (ASIIN 2.1) Es wird empfohlen, die akademische Mobilität der Studierenden weiter zu fördern.

E 3. (ASIIN 3) Es wird empfohlen, die Abschlussarbeiten durch eine substantiierte Zusammenfassung in englischer Sprache zu ergänzen.

E 4. (ASIIN 4.1) Es wird empfohlen, zusätzliches Lehrpersonal einzustellen, um die Relation von Lehrenden zu Studierenden zu verbessern.

E 5. (ASIIN 6) Es wird empfohlen, die Ergebnisse der Lehrevaluationen systematisch für die Weiterentwicklung der Studiengänge zu nutzen und den Studierenden zu jeder Lehrveranstaltung Rückmeldungen über die getroffenen Maßnahmen zu geben.

Ma Chemische Technologie der anorganischen Stoffe Chemische Technologie der organischen Stoffe Technologie und Konstruieren von Erzeugnissen der Leichtindustrie(Auezov SKSU)

E 1. (ASIIN 1.3) Es wird empfohlen, die Englischkenntnisse der Studierenden zu verbessern und mehr englischsprachige Lehrveranstaltungen in das Curriculum zu integrieren.

E 2. (ASIIN 2.1) Es wird empfohlen, die akademische Mobilität der Studierenden weiter zu fördern.

E 3. (ASIIN 3) Es wird empfohlen, die Abschlussarbeiten durch eine substantiierte Zusammenfassung in englischer Sprache zu ergänzen.

E 4. (ASIIN 4.1) Es wird empfohlen, zusätzliches Lehrpersonal einzustellen, um die Relation von Lehrenden zu Studierenden zu verbessern.

E 5. (ASIIN 6) Es wird empfohlen, die Ergebnisse der Lehrevaluationen systematisch für die Weiterentwicklung der Studiengänge zu nutzen und den Studierenden zu jeder Lehrveranstaltung Rückmeldungen über die getroffenen Maßnahmen zu geben.

Ma Technology of Food Products (1 year/2 years) Crop Processing Technology (1 year/2 years) Technology and Design of Light Industry Products (1 year/2 years) Technology and Design of Textile Materials (1 year/2 years) Safety of Non-Food Goods and Products (1 year/2 years)(Almaty Technology University)

E1 . (ASIIN 1.2) It is recommended to introduce names for the degree programmes that better reflect the intended qualifications profile and learning outcomes.

E 2. (ASIIN 1.3/3) It is recommended to use Bloom's taxonomy to redefine the learning outcomes.

E 3. (ASIIN 2.1) It is recommended to match the course names in the module descriptions to the curricula.

E 4. (ASIIN 3.1) It is recommended to improve the opportunities for students to complete a stay at a different higher education institution without any prolongation of their studies.

E 5. (ASIIN 2.4) It is recommended to provide a concept for student support and assistance.

E 6. (ASIIN 4.3) It is recommended to provide a faster internet connection.

E 7. (ASIIN 4.3) It is recommended to give students online access to international research journals.

E 8. (ASIIN 5.3) It is recommended to make all information concerning the degree available to the students in Russian, Kazakh and English.

PhD Programmes Technology of Food Products Crop Processing Technology Technology and Design of Light Industry Products Technology and Design of Textile Materials Safety of Non-Food Goods and Products (Almaty Technology University)

E 1. (ASIIN 2.1) Improve the opportunities for students to complete a stay at a different higher education institution without any prolongation of their studies.

E 2. (ASIIN 2.3) Offer students more opportunities to increase their English language skills.

E 3. (ASIIN 3.4) Increase measures to recruit foreign thesis supervisors.

E 4. (ASIIN 4) Improve the academic level of PhD theses by examining statistical variations of research results in greater depth.

E 5. (ASIIN 7.1) Issue a certificate containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme and the graduate's individual performance. Append a diploma supplement containing fundamental information about the national higher education system.

E 6. (ASIIN 7.1) Make all relevant study documents available online in English for external stakeholders.

General conclusions

Based on the accreditation audits carried out, the analysis of the equipment, the meetings and interviews held, as well as the analysis of the training documentation for compliance with the standards, the general ASIIN recommendations can be proposed in the following thematic areas:

- the European Qualifications Framework and the National Qualifications Framework of the Republic of Kazakhstan should be the main reference point in the development of degree programs;
- the educational process and all relevant services should be aimed at the full achievement of competencies corresponding to the specified levels of the qualifications framework. Final qualification works and dissertations must clearly demonstrate achievement of qualification objectives corresponding to the EQF and NQF RK;
- the names of degree programs should be used to fully reflect the intended profile of qualifications and learning outcomes formulated using Bloom's Taxonomy;
- care must be taken to match the number of ECTS credits and the student's workload;
- modernization and improvement of research equipment is required to form relevant research competencies, as well as compliance with internationally

recognized safety standards in laboratories, ensuring the professional disposal of laboratory waste;

- attention is required to the academic level of PhD dissertations through a deeper study of statistical variations in research results;

- the language environment of both students and teachers should be improved, it is recommended to improve the level of students' proficiency in English and the inclusion of more English-language elements in the educational program;

- it is necessary to strengthen student support systems.