ASIIN Seal & EUR-ACE® Label

Accreditation Report

Bachelor's Degree Programmes
Technology of Food Products
Crop Processing Technology
Technology and Design of Light Industry Products
Technology and Design of Textile Materials

Provided by
Almaty Technological University

Version: 27 June 2025

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Технология продовольственных продуктов	Technology of Food Products	ASIIN, EUR-ACE® Label	ASIIN, 29.09.2017 -30.09.2024	01, 08
Технология перерабатывающих производств	Crop Processing Technology	ASIIN, EUR-ACE® Label	ASIIN, 29.09.2017 -30.09.2024	01, 08
Технология и конструирование изделий легкой промышленности	Technology and Design of Light Industry Products	ASIIN, EUR-ACE® Label	ASIIN, 29.09.2017 -30.09.2024	01
Технология и проектирование текстильных материалов	Technology and Design of Textile Materials	ASIIN, EUR-ACE® Label	ASIIN, 29.09.2017 -30.09.2024	01
Date of the contract: 14.06.2023 **Submission of the final version of the self-assessment report:** 06.12.2023 **Date of the onsite visit:** 13.-15.03.2024 **at: Almaty Technological University**				
Expert panel: Prof. Dr. Anne Schulz-Beenken, South Westphalia University of Applied Sciences Prof. Dr. Alexander Büsgen, University of Applied Sciences Niederrhein Prof Dr Bernhard Seggewiß, University of Applied Sciences				

[1] ASIIN Seal for degree programmes; EUR-ACE® Label: European Label for Engineering Programmes.
[2] TC: Technical Committee for the following subject areas: TC 01 - Mechanical Engineering/Process Engineering; TC 08 - Agriculture, Forestry, Food Sciences, and Landscape Architecture.

Dr. Shynar Nurlanovna Akhmetsadykova, Head of Laboratory of Microbiology, LLP ANTI-GEN Said Nalibayev, South Kazakhstan State University named after M. O. Auezov, Shymkent	
Representative of the ASIIN headquarter: Paulina Petracenko	
Responsible decision-making committee: Accreditation Commission for Degree Programmes	
Criteria used: European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of December 10, 2015 Subject-Specific Criteria of Technical Committee 01 – Mechanical Engineering/Process Engineering as of March 16, 2021 Subject-Specific Criteria of Technical Committee 08 – Agriculture, Forestry and Food Sciences as of March 27, 2015	

B Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Ba Technology of Food Products	Bachelor of Engineering/ B.Eng.	1. Technology of meat and fish products 2. Technology of milk and dairy products 3. Technology of public catering and special purpose products	6	Full time	/	8 Semesters	240 ECTS	2001
Ba Crop Processing Technology	Bachelor of Engineering/ B.Eng.	1. Grain preservation, processing and reprocessing technology 2. Bread, pasta and confectionery technology 3. Brewery and wine-making technology	6	Full time	/	8 Semesters	240 ECTS	2001
Ba Technology and Design of Light Industry Products	Bachelor of Engineering/ B.Eng.	1. Technology and designing of garments 2. Technology and designing of products from leather and fur 3. Decorating and modeling of products of light industry	6	Full time	/	8 Semesters	240 ECTS	2004
Ba Technology and Design of Textile Materials	Bachelor of Engineering/ B.Eng.	1.Technology of knitted production 2. Technology and equipment of finishing production 3. Designing of textile products	6	Full time	/	8 Semesters	240 ECTS	2004

For the Bachelor's degree programme Technology of Food Products the institution has presented the following profile on the website:

"The purpose of the programme: Training of highly qualified specialists for enterprises of meat, fish, dairy, canning industries of the food industry and public catering, possessing professional and social competencies that meet the requirements of the modern economy and the labor market.

[3] EQF = The European Qualifications Framework for lifelong learning

Key competencies

- Organizational and managerial: Organizes the technological process at enterprises of the food industry (meat, fish, dairy, canning) and public catering and makes management decisions
- Production and technological: Carries out quality control of manufactured food products and services for compliance with the requirements of regulatory documents efficiently operates various types of technological equipment at food industry and catering enterprises in accordance with safety requirements, applies the requirements of legislation on occupational safety and health and basic methods of protecting the population from the consequences of accidents
- Project information: Participates in the design, reconstruction and equipping of food production and catering enterprises
- Scientific research: Uses scientific knowledge to improve the efficiency of food production
- General professional: Applies methods of mathematical analysis, laws of physics and mechanics for the successful study of core disciplines, uses the basic laws of natural sciences in industrial and scientific activities
- General cultural: Demonstrates basic knowledge in the field of social sciences and humanities, contributing to the formation of a highly educated personality with a broad outlook and a culture of thinking, striving for professional and personal growth.He is capable of communication in oral and written forms in Kazakh, Russian, and foreign languages to solve problems of interpersonal and intercultural interaction, is motivated to communicate in three languages.Has skills in handling modern technology, uses information technology in the field of professional activity."

For the Bachelor's degree programme Crop Processing Technology the institution has presented the following profile on the website:

"The purpose of the programme: training of highly qualified personnel for grain processing, bakery, pasta, confectionery, fermentation and wine enterprises with universal and professional competencies that contribute to their social mobility and sustainability in the labor market.

Key competencies:

- Demonstrates knowledge in the field of social sciences and humanities, forming a person with a broad outlook and a culture of thinking and academic integrity.
- Uses modern technology, information and digital technologies in the field of professional activities
- Capable of communication in Kazakh, Russian, foreign languages to solve problems of interpersonal and intercultural interaction
- Applies in professional activities knowledge of the fundamentals of economics, entrepreneurship, law, anti-corruption culture, features of the interaction between nature and society to ensure life safety
- Applies knowledge of mathematics, laws of physics and mechanics when solving professional problems in the field of production of processed products
- Uses the basic laws of natural sciences when solving professional problems in scientific activities and in the development of processing industry products
- Applies knowledge of scientific research methods, genres of academic writing and principles of scientific ethics in the field of professional activity
- Ensures occupational safety and health in modern processing industry enterprises
- Organizes the technological process at processing industry enterprises (grain processing, baking, pasta, confectionery, fermentation and winemaking) for the production of high-quality products
- Organizes the effective functioning of the quality control system for manufactured food and processing products and services in accordance with regulatory documents
- Effectively operates various types of technological equipment at processing industry enterprises in accordance with safety requirements
- Participates in the design, reconstruction and equipment of processing enterprises
- Uses scientific knowledge to improve the production efficiency of process industry products and solve practical problems
- Applies knowledge of economics and entrepreneurship in organizing business in the processing industry
- Applies analytical and research skills to solve practical problems in the process industry.”

For the Bachelor's degree programme Technology and Design of Light Industry Products the institution has presented the following profile in the self-assessment report:

"The main goal of the DP Technology and Design of Light Industry Products is to train highly qualified and competitive personnel in the field of technology and design of garments, leather products and shoes in accordance with the requirements of the regional, republican and international labour markets.

Generated learning outcomes

- Applies the basic laws of natural sciences, methods of mathematical analysis and modelling, when solving professional problems in the field of light industry
- Demonstrates knowledge of physical and chemical methods for solving applied problems in the field of chemical technology of light and textile industry
- Performs independently setting and solving coloristic tasks, transforms and stylizes forms into decorative compositions
- Analyses the state and dynamics of quality indicators of materials, light industry products and typology of figures using scientific research methods
- They will apply knowledge of scientific research methods and academic writing in the professional activity of light industry, collect and interpret information for the formation of judgments, adhering to the principles of the culture of academic honesty, scientific ethics
- Manages ensuring the safety of life, labour protection standards at light industry enterprises and environmental cleanliness of production
- Able to conduct professional activities using classical and innovative technologies in the design and manufacture of garments, knitwear, shoes, accessories, leather, fur, leather goods
- Develops design documentation taking into account utilitarian and technical, artistic and aesthetic, economic parameters, carries out author's control over the compliance of the product design project and promotes products on the market
- Manages technological processes for the production of clothing, footwear, leather, fur and leather goods for various purposes
- Effectively operates various types of modern technological equipment and devices at light industry enterprises in accordance with safety requirements
- Applies knowledge of the computer-aided design system in the development and manufacture of garments, leather products and shoes from traditional and non-traditional materials

- Applies skills in management, organization and planning of assortment, quality, services, defect and monitors the quality of products manufactured by enterprises."

For the Bachelor's degree programme Technology and Design of Textile Materials the institution has presented the following profile in the self-assessment report:

"The main goal of the DP Technology and design of textile materials is to train highly qualified, creatively thinking and adapted to changing conditions personnel with higher education in the field of technology and design of textile materials.

Generated learning outcomes

- Owns the skills of handling modern technology, uses information technology in the field of professional activity
- Able to communication for solving problems of interpersonal and intercultural interaction
- Able to make management decisions in the field of professional activity
- Applies knowledge of the basic laws of natural science, engineering disciplines and methods of mathematical analysis to analyze professional tasks aimed at improving the efficiency of production of textile and light industry products
- Applies knowledge and understanding of theories of complex dependencies of chemical processes to improve technological processes for the production of textile and light industry products
- Effectively operates various types of technological equipment in professional activities in accordance with safety requirements
- He organizes the technological process at the enterprises of textile and light industry and makes management decisions
- Performs quality control of products and services for compliance with the requirements of regulatory documents
- Evaluates the quality of services in the design and reconstruction of textile and light industry enterprises
- Applies modern research methods and knowledge of academic writing genres, collects and interprets information to form judgments, adhering to the principles of academic integrity, culture and scientific ethics in the development of new textile materials."

C Expert Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, Content & Implementation

Criterion 1.1 Objectives and Learning Outcomes of a Degree Programme (Intended Qualifications Profile)

Evidence:

- Self-Assessment Report
- Study plans of the degree programmes
- Module descriptions
- Objective-module-matrix per programme
- Websites of all study programmes
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The learning outcomes can be found on the websites of the study programmes, in the Diploma Supplements, and the Self-Assessment Report. In addition, Almaty Technological University (in the following "ATU") has provided detailed objective-module-matrices for each programme.

The experts refer to the Subject-Specific Criteria (SSC) of the Technical Committees Mechanical Engineering/Process Engineering and the Technical Committee Agriculture, Forestry and Food Sciences as a basis for judging whether the intended learning outcomes of the four programmes correspond with the competences as outlined by the SSCs.

The auditors confirm that the programme learning outcomes are transparently anchored and published and thus are available to students, lecturers and interested third parties. They also agree that the learning outcomes are described in a clear and concise manner.

[4] This part of the report applies also for the assessment for the European subject-specific labels. After the conclusion of the procedure, the stated requirements and/or recommendations and the deadlines are equally valid for the ASIIN seal as well as for the sought subject-specific label.

Furthermore, the experts acknowledge that the intended learning outcomes cover different areas of competences; ranging from technical skills to academic and general/transferrable skills such as communication and social responsibility.

In the Technology of Food Product programme, students must acquire the following skills:

- "conduct research in the field of food technology based on a holistic systemic scientific worldview using knowledge of the history and philosophy of science;
- use modern methods and technologies of scientific and professional communication in a foreign language in the field of professional activity
- apply knowledge of psychology in solving management problems and in planning professional and personal development;
- apply knowledge of the methodological foundations of higher education pedagogy and professional knowledge and skills in professional and educational activities;
- conduct independent theoretical and experimental research, analysis of their results to solve scientific and practical problems in the food industry;
- take part in the work of teams involved in project management based on knowledge of modern methodology, tools, and standards in the field of project management;
- manage the processes of ensuring the quality of food products and services in accordance with regulatory documents;
- make judgments based on the collection and interpretation of information, taking into account ethical and social responsibility and scientific ethics for its use;
- develop innovative food technologies based on scientific knowledge, best practices and prospects for the development of the food industry;
- present information, ideas, conclusions, problems and solutions clearly and accessible using scientific and professional terminology in the field of food."

Graduates of the programme are qualified to work in the following fields: food industry (meat processing, dairy, canning, catering), specialized organizations of higher education, and organizations of technical and vocational education.

In the Crop Processing Technology programme, students must acquire the following skills:

- "use knowledge of the basics of economics, law and life safety in the field of professional activity
- apply knowledge of mathematics, basic laws of physics and natural sciences in solving professional problems in animal husbandry

- apply knowledge of scientific research methods, genres of academic writing and principles of scientific ethics in the field of professional and scientific activities
- provide complete feeding of farm animals to increase their productivity based on knowledge of physiology, ethology and biotechnology
- participate in the design and reconstruction of livestock facilities based on zoo-hygienic and sanitary requirements
- conduct veterinary activities on the farm based on knowledge of anatomy, histology, morphology of farm animals
- take part in the selection of the latest technologies for the production of livestock; products based on the developing knowledge of breeding and selection of farm animals
- use modern methods for assessing and controlling the quantity and quality of raw materials, semi-finished products and finished livestock products
- provide rational maintenance, feeding and breeding of animals for the production of high-quality and competitive livestock products
- organize the work of livestock breeding, assessment of the productive qualities of animals and entrepreneurial activity
- use innovations in animal husbandry and ensures labor safety in livestock farms
- use modern technology, information and digital technologies in the field of; professional activity."

Possible areas of employment after graduation are the grain processing, bakery, pasta, confectionery, fermentation and wine industries. Graduates are qualified to carry out organisational and managerial activities, production and technological activities, calculation and design activities and experimental research activities.

In the Technology and Design of Light Industry Products programme, students must acquire the following skills:

- "Apply the basic laws of natural sciences, methods of mathematical analysis and modeling, when solving professional problems in the field of light industry
- Demonstrate knowledge of physical and chemical methods for solving applied problems in the field of chemical technology of light and textile industry
- Perform independently setting and solving coloristic tasks, transforms and stylizes forms into decorative compositions

- Analyze the state and dynamics of quality indicators of materials, light industry products and typology of figures using scientific research methods
- apply knowledge of scientific research methods and academic writing in the professional activity of light industry, collect and interpret information for the formation of judgments, adhering to the principles of the culture of academic honesty, scientific ethics
- Manage ensuring the safety of life, labor protection standards at light industry enterprises and environmental cleanliness of production
- Able to conduct professional activities using classical and innovative technologies in the design and manufacture of garments, knitwear, shoes, accessories, leather, fur, leather goods
- Develop design documentation taking into account utilitarian and technical, artistic and aesthetic, economic parameters, carries out author's control over the compliance of the product design project and promotes products on the market
- Manage technological processes for the production of clothing, footwear, leather, fur and leather goods for various purposes
- Effectively operate various types of modern technological equipment and devices at light industry enterprises in accordance with safety requirements
- Apply knowledge of the computer-aided design system in the development and manufacture of garments, leather products and shoes from traditional and non-traditional materials
- Apply skills in management, organization and planning of assortment, quality, services, defect and monitors the quality of products manufactured by enterprises."

Graduates of the programme are suitable to work in the following fields: design, production, and creation of innovative products in the light industry and fashion industry (clothing, footwear, fur and leather products).

In the Technology and Design of Textile Materials, students must acquire the following skills:

- "Own the skills of handling modern technology, uses information technology in the field of professional activity
- Able to communication for solving problems of interpersonal and intercultural interaction
- Able to make management decisions in the field of professional activity

- Apply knowledge of the basic laws of natural science, engineering disciplines and methods of mathematical analysis to analyze professional tasks aimed at improving the efficiency of production of textile and light industry products
- Apply knowledge and understanding of theories of complex dependencies of chemical processes to improve technological processes for the production of textile and light industry products
- Effectively operate various types of technological equipment in professional activities in accordance with safety requirements
- organize the technological process at the enterprises of textile and light industry and makes management decisions
- Perform quality control of products and services for compliance with the requirements of regulatory documents
- Evaluate the quality of services in the design and reconstruction of textile and light industry enterprises
- Apply modern research methods and knowledge of academic writing genres, collects and interprets information to form judgments, adhering to the principles of academic integrity, culture and scientific ethics in the development of new textile materials."

Possible areas of employment after graduation include the processing of (raw) materials, design, the production of semi-finished products and textile products, the organisation of activities and processes in the company, taking into account consumer requirements and market developments, processing of raw materials, materials, design, production of semi-finished products and textile products, organization of effective activity of the enterprise in the market taking into account the requirements of the consumer, its internal capabilities and industry specifics.

The experts review the documents and confirm that the level of the objectives and intended learning outcomes of the four programmes adequately reflect EQF level 6. The programmes also meet the ASIIN Subject Specific Criteria (SSC) of the Technical Committees Mechanical Engineering/Process Engineering and Agriculture, Forestry and Food Sciences. The experts are convinced that the intended qualification profiles of all four programmes under review allow graduates to take up an occupation, which corresponds to their qualification.

Since the university also applied for the EUR-ACE® label, the experts check whether the learning outcomes are aligned with the EUR-ACE® Framework Standards and Guidelines (EAFSG) for engineering programmes. The EUR-ACE® Framework Standards and Guidelines

requires that engineering programmes cover the following seven competence areas: Knowledge and Understanding, Engineering Analysis, Engineering Design, Investigations, Engineering Practice, Making Judgements Communication and Team-working, and Lifelong Learning. The documents illustrate that the degree programmes under review cover all the required competence areas and the experts are convinced that the mentioned competences are conveyed in the respective programmes. They conclude that the intended learning outcomes of all four programmes are aligned with the EUR-ACE® Framework Standards and Guidelines (EAFSG).

In order to check whether the intended learning outcomes of the four programmes are covered by the respective curricula, ATU has provided a matrix for each programme, which shows which learning outcomes are targeted in which course. From the matrix provided for each programme, the experts can deduce the correlation between the competence profile of the programmes and the respective SSC and see how each course contributes to the achievement of the intended learning outcomes.

The experts note that the objectives and learning outcomes are regularly reviewed, taking into account feedback from all stakeholders (students, alumni, teachers and industry partners). The review of learning outcomes also takes into account the national industry qualifications framework, professional standards and the views of the members of the Board of Trustees.

The industry partners report that they are satisfied with the qualification profiles of the graduates and that they are regularly asked about the status of the degree programmes. However, the industry representatives state that the topics covered in the Technology and Design of Textile Materials degree programme are not entirely state of the art. They believe that in order to produce internationally competitive graduates, the programme should include more modern topics and technologies. This aspect will be discussed in more detail in chapter 1.3.

Criterion 1.2 Name of the Degree Programmes

Evidence:

- Self-Assessment Report
- Diploma Supplements

Preliminary assessment and analysis of the peers:
The experts confirm that the English translation and the original Kazakh names of the Bachelor's degree programmes correspond with the intended aims and learning outcomes as well as the content of the respective degree programme.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Study plans
- Module descriptions
- Study Abroad Policy
- Discussions during the audit

Preliminary assessment and analysis of the experts:

Content & Structure of the Programme

The four Bachelor programmes have a duration of four years (8 semesters). The structure of the curriculum is similar in each programme. In the first three semesters, students mainly take general modules required by the Ministry (such as Kazakh history and Kazakh or Russian language) and basic modules in the natural sciences as well as the subject areas of the respective degree programme. Students then deepen their technical knowledge in more specialised modules. In each programme, students can choose a specialisation within the subject. In addition, each programme includes some interdisciplinary courses, such as "Principles of Economics and Business Management". All students are required to complete three work placements during their studies. The first internship takes place at the beginning of the programme and lasts about two weeks (2 ECTS). The second internship lasts approximately one month (5 ECTS) and the third internship lasts approximately two months (8 ECTS). Each programme concludes with the submission and defense of a final thesis.

In the programme Technology of Food Products, students can chose a specialisation from the following four offers:

- Technology of meat and meat products
- Technology of milk and dairy products
- Technology of products and service in public catering
- Technology of canned food and food concentrates

In the programme Crop Processing Technology, students can chose between three specialisations:

- Grain preservation, processing and reprocessing technology
- Bread, pasta and confectionary technology
- Brewery and winemaking technology

The programme Technology and Design of Light Industry offers three specialisations:

- Technology and Designing of garments
- Technology and Designing of products from leather and fur
- Decorating and modeling of products of light industry

In the programme Technology and Design of Textile Materials, students can chose between three specialisations:

- Technology of knitted production
- Technology and equipment of finishing production
- Designing of textile products

Students receive help from the academic advisor in choosing their specialisation and designing their individual curriculum. The programme coordinators explain that at the beginning of the programme and before each academic year, students meet with the advisor and build the curriculum for the following year. In addition, the Dean has to approve each curriculum.

According to the self-assessment report, the Chairs conduct regular surveys of students, alumni and employers to review and, if necessary, update/replace electives.

The experts note the remarkably high number of electives as part of the specialisation tracks; for example, in all four programmes the percentage of electives varies between 33% and 49% of the total number of credits per programme. The experts are pleased that students have the opportunity to build a highly individualised curriculum and are glad to hear that students are advised on how to build the individual curriculum and select the electives.

The experts learn that the courses can be studied in a “normal” and a “dual” mode. Dual mode means that students study and work in a professional company at the same time. For example, students studying food products work in a large brewery, applying their theoretical knowledge in a real working environment. The practical work is partly aligned with the theoretical modules, but not throughout. As far as the content of the curriculum is concerned, the two modes are completely identical. The experts consider this acceptable.

The detailed study plans for both programmes can be found at the end of this report.

Following the audit discussions and the review of the documents, the experts are of the opinion that the four programmes provide a sound education at EQF level 6. They consider that the curricula are designed and structured to enable students to achieve the intended learning outcomes. In addition, they confirm that the curricula are in line with the relevant

SSC and provide students with the engineering competences required by the EUR-ACE® Framework Standards and Guidelines (EAFSG).

With regard to the Food Products and Crop Processing Technology programmes, the experts consider that the curricula offer a wide range of interesting topics that are in line with current industry needs and recent research developments. Overall, the experts are very satisfied with the ATU department in the broader field of food products, as it is characterised by very experienced and competent teachers, modern laboratories and international cooperation projects, which result in study programmes of high quality.

With regard to Technology and Design of Textile Materials and Technology and Design of Light Industry, the experts consider that these programmes are also embedded in a department with very experienced and ambitious teaching staff involved in various industrial and research projects. However, they also note that there is room for improvement in these two programmes, mainly in terms of traditional curricula and partly outdated equipment.

For example, the experts note that the programme Technology and Design of Textile Materials has a strong focus on knitted garments and chemical textile finishing. During the audit, the experts inquire about the reason for this. The programme coordinators explain that consultations with industry partners have shown that there is a demand for knitted garments and heat-protective textiles, so ATU has specialised in these areas. The experts understand these developments and appreciate that the university is aligning the content with the needs of the industry. However, they feel that the programme is a little too one-sided and that a bachelor's degree in textile materials should have a greater variety of subjects, covering a wider range of textile materials. For this reason, the experts recommend reducing the content in chemical textile finishing and knitting and increasing the content in spinning, weaving and nonwovens; these subjects are covered only sporadically in the curriculum but are also relevant to the industry.

In general, the experts remark that the curriculum of the programme Technology and Design of Textile Materials is largely based on traditional subjects covered in modules such as M31.2 “The history of the textile ornament”, M36.3 “Technology of spinning bast fibers” or M41.3 “Technology of hardware spinning of wool”. While the curriculum is sufficient to provide students with a solid basic education in the field of textile design and technology, corresponding to the level of a bachelor's degree and the objectives of the programme, the programme hardly addresses innovative elements that are part of the latest developments in the discipline. Paradoxically, the experts recognise that the teaching staff are involved in various international cooperation projects, but the results of these activities do not seem to be incorporated well enough into the study programmes. The opinion of the experts

coincides with that of the industrial partners. As already mentioned in chapter 1.1, the audit discussions show that they also think that the university follows global developments in the fields of textiles, but also light industry, a little too slowly and would like to see more inclusion of topics that are in line with international trends. The experts therefore recommend that the programme Technology and Design of Textile Materials should include more modern content such as high performance fibres, smart textiles and fibre reinforcement of composite materials.

For the programme Technology and Design of Light Industry Products, the experts also recognise a more traditional curriculum. The experts recommend that more technology-related content should be included. For example, lectures on personal protective equipment could make use of research results from ATU's recent R&D projects. In addition, it is recommended that the theoretical background to garment design be strengthened by including more content on colour theory, morphology theory, creativity theory and design theory.

The experts are also discussing the status of English skills in the audit. At present, each programme under review offers compulsory English courses worth 10 ECTS points. However, students express in the audit their wish for further opportunities to improve their English language skills. They are aware of the importance of English language skills in terms of their qualification profile as graduates and their chances on the labour market. They also argue that the majority of students would like to study abroad, but that not all have the opportunity to do so due to a lack of English language skills. This is echoed by the industry partners, who would also like to see more English language training. The experts fully understand the perspective of students and industry representatives and follow their suggestion to provide more opportunities for students to learn and improve their English. For example, they suggest offering more technical courses in English. However, this requires teachers to have an advanced level of English, which the experts believe is only partially met by the teaching staff for the programmes under review. From the documents and the discussion with the teachers, the experts learn that the ATU has already implemented measures in recent years, such as offering English courses, which have evidently improved the English level of many teachers. Nevertheless, the experts consider that there is still room for improvement and therefore recommend that more mechanisms be put in place to improve the English language skills of teachers. For example, the experts suggest introducing a requirement for new teachers to have a certain level of English before starting their work at ATU. Another possibility is to set up English clubs for teachers. Ultimately, the improved English skills of teachers should not only enable more technical subjects to be taught in English, thereby improving the English skills of students, but also give teachers the opportunity to participate more in international research and industrial projects.

Internship

As mentioned above, all students of the four programmes are required to complete three internships at different stages of their studies; the first for two weeks, the second for four weeks and the third for eight weeks. The last internship serves as preparation for the final thesis. During the audit, the experts learned that the Career Centre has a list of cooperation partners from which students can choose. ATU currently has agreements with around 50 companies. Alternatively, students can propose another company, but this must first be approved by the university. During the internship, students must carry out tasks that are in line with the objectives and intended learning outcomes of the respective programmes. In addition, the tasks should consolidate the students' theoretical knowledge and enhance their scientific and methodological skills. At the end of each placement, students are required to submit a report and give a presentation on their learning in the presence of members of the Chair and the industrial supervisor. The grade is calculated on the basis of the student's performance in both the report and the presentation.

The experts consider that the internships are well integrated into the curriculum and that ATU has adequate measures in place to ensure that the internship contributes to the learning outcomes of the programme. The industry partners reiterate their satisfaction with the placement system, although they state that the placement periods as a whole could be longer. They add that sometimes students decide to extend the placement privately in order to enhance their learning. The experts understand the perspective of the industry partners, but find the overall length of the three placements acceptable.

Student Mobility

In order to promote student mobility, ATU has a number of partner universities, e.g. in Hungary, Bulgaria and Turkey, and participates in various cooperation projects. Through networks such as ERASMUS+ or DAAD, students have the opportunity to go abroad. The programme coordinators explain in the audit that they recommend students to go abroad in the eighth semester. As the internship is particularly well suited to mobility, many students choose to do their final internship in the eighth semester in a company abroad. Thus, in 2023, 15 students in the Food Products programme spent a semester abroad and 66 students completed the internship abroad. In the Light Industry programme in 2023, 5 students studied at a partner university and 13 students did their internship abroad. Overall, however, the Directorate informs the experts that ATU has more incoming students than outgoing students. Students report in the audit that they are satisfied with the system and offers of student mobility at ATU. Several state that they have already completed or plan to complete an internship abroad, e.g. in Uzbekistan and Turkey.

As mentioned above, ATU has established rules for the recognition of external credits that are in line with the Lisbon Convention. To ensure a smooth process, a learning agreement is signed between ATU and the host university prior to the mobility.

In conclusion, the experts consider that the university provides adequate exchange opportunities and support for students wishing to go abroad. They also find that the number of outgoing students in all four programmes is acceptable.

Periodic Review of the Curriculum

The experts note that the four curricula are annually reviewed with regard to the implementation of the programme objectives, the demands of industry and the overall feasibility of the study programmes. These issues are discussed each year at round table meetings of each chair. Proposed changes to the curricula are then submitted to the Faculty Quality Assurance Committee for approval.

The review takes into account feedback from internal stakeholders (e.g. students and teachers) and external stakeholders. External evaluation is based on, among other things, accreditation procedures, ratings, evaluations by experts from foreign partner universities, surveys and direct consultation meetings with industry partners. ATU takes feedback from internal and external stakeholders very seriously and shows the list of changes made to the curriculum as a result of their feedback.

For example, at the suggestion of several companies, the modules "Biochemistry of Grain and Grain Products" and "Biochemistry of Beer" were added to the Crop Processing Technology programme last year. In the Light Industry programme, for example, the module "Design of a garment production equipped with automation of the production process" was replaced by the module "Design of digital sewing enterprises". The experts are glad to see that the curricula of the four programmes are regularly evaluated and adapted considering the feedback from all stakeholders.

Criterion 1.4 Admission Requirements

Evidence:

- Regulations on the Procedure for Recognition of Learning Results - Formal and Non-Formal Education
- Rules of Transfer, Recovery and Contributions of Students
- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the self-assessment report, admission procedures and policies for new students are organized state-wide and follow the “Standard Rules for Admission to Education to Educational Organizations Implementing Professional DPs of Higher Education” issued by the Ministry of Science and Higher Education of the Republic of Kazakhstan from 2023. All relevant information regarding the admission process and requirements are published on the website of ATU and thus accessible for all stakeholders.

Applicants who want to be admitted to ATU need to prove the availability of the secondary education certificate and the certificate of the Unified National Testing (UNT) or its equivalent - comprehensive testing (CT). The tests cover the subjects history of Kazakhstan, mathematics, Kazakh or Russian languages and subjects selected by the student, which are either biology and chemistry or physics and mathematics. Applicants, who do not agree with the test results, have the right to apply to the appeal commission. Students, who are in special life circumstances and/or have achieved a particularly high score in one of the tests are eligible for a state grant. The Ministry of Science and Higher Education defines the quantity of Educational Grants for each academic degree programme. The experts review the documents and conclude that the admission requirements are adequate and reasonable for maintaining the quality of the Bachelor degree programmes.

ATU has established rules for the recognition of externally acquired qualifications, which are defined in the documents "Regulations on the Procedure for Recognition of Learning Results - Formal and Non-Formal Education" and "Rules of Transfer, Recovery and Contributions of Students". Recognition is carried out by the Profile Commission of ATU, which compares the learning outcomes and courses obtained by the student in the external institution with the learning outcomes and courses to be recognised. If there is equivalence, the credits are recognised. The regulations also describe in detail the recognition process in the case of student/academic mobility. The experts confirm that the rules for the recognition of external qualifications are clearly and transparently defined and in line with the principles of the Lisbon Convention.

ATU provides detailed statistical data on the annual intake per cohort for each programme under review from 2018 to 2022. The annual intake in the Food Products programme has been reduced over the last six years, from 270 students in 2018 to 210 students in 2022. The intake capacity of the programme is 290 students. In the programme Crop Processing Technology, the intake has fluctuated over the years, starting with 167 students in 2018, continuing with 102 students and 210 students in 2022. In the programme Technology and Design of Light Industry Products, the intake has drastically decreased from 162 students in 2018 to 66 students in 2022. The Technology and Design of Textile Materials programme

has seen a relatively similar number of new students over the years, with 29 students in 2018 and 32 students in 2022.

In the audit, the experts ask the directorate about its position with regard to the overall decreasing number of new students. The head of the university explains that their strategy is to introduce online teaching programmes, which seem to be demanded by both students and the labour market, and thus to attract more students. Otherwise, the management adheres to the quality standards of the programmes and does not want to compromise the quality of the programmes in order to increase the number of students. The experts understand the university's reasoning and agree with its policy.

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report
- Study plans
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the experts:
ATU uses the European Credit Transfer and Accumulation System (ECTS), where one ECTS/credit point is equivalent to 30 hours. ATU's credit system assesses student workload and includes both contact hours and time for independent study. The system ensures that all required components are included in the curriculum, with credits awarded for each module according to the workload involved.

Each of the four programmes under review comprises 240 ECTS. The workload is evenly distributed throughout the studies, with exactly 30 ECTS per semester. For every hour of classroom teaching at ATU, there are two hours of independent study, resulting in a ratio of 1:2 between classroom teaching and independent study. Module descriptions provide detailed information on the distribution of workload, categorising it into hours of lectures, practical classes (comparable to seminars with exercises), laboratory studies, independent work by students under the guidance of a teacher, and regular independent student work. Independent work under the supervision of teachers includes, for example, consultations on the completion of homework, term papers, reports and other types of assignments, as well as examinations.

After reviewing the module descriptions, the experts consider that the calculation of workload is correct and includes contact hours as well as self-study time. They also find that the

workload estimates are realistic and well founded. They also appreciate that the workload is evenly distributed over the semesters.

Students indicate in the audit that the workload is manageable and in line with the credit points awarded per module. However, the experts learn that the actual workload is not adequately monitored by ATU, as students are neither surveyed nor directly consulted by teachers or other ATU staff about their workload. The experts therefore require ATU to introduce a formal system for verifying students' actual workload and awarding credit points accordingly.

Furthermore, the students inform the experts that ATU has recently introduced a new study platform called "Hero Study Space", which tracks students' studies, showing timetables, grades, credits earned, etc. They add that with the introduction of the new online platform, the grading system has changed as attendance is no longer required, whereas before it was part of the course grade. Now it is possible for students who never attend lectures to receive the same grade as students who have attended and participated in classes continuously. Several students state in the audit that they find this new grading system unfair. The experts understand students' frustration that those who attend lectures are not rewarded for their extra effort. However, they believe that it is a legitimate practice for teachers to choose appropriate forms of assessment as they see fit, and that this approach ultimately gives students the freedom to acquire knowledge and skills in the way they consider best for themselves. Most importantly, the assessment system must be communicated transparently to students - but here the experts are not sure, as several students seem confused or insufficiently informed about the new system. For this reason, the experts recommend that information about the new system of the calculation of grades and credits should be communicated more clearly to students.

According to the statistics provided by the university, students in all four programmes studied take an average of 4 years to complete their studies. The experts are impressed by the fact that the majority of students actually graduate within the intended duration of the programmes. They also note the very low drop-out rate in all programmes. For example, the drop-out rate in Food Products, Crop Processing Technology and Light Industry Technology and Design varies between 5-7%; only in Textile Technology and Design the drop-out rate is higher, at 19%. The experts attribute the higher figure partly to the much smaller cohort in this programme (which somewhat distorts the figures). Furthermore, they consider a drop-out rate of 19% in a Bachelor's programme to be acceptable.

In conclusion, the experts consider that ATU has a sound credit system based on student workload. However, the university needs to ensure continuous monitoring of the actual student workload.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-Assessment Report
- Study plans
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The University uses a variety of teaching methods to ensure a comprehensive learning experience. These include traditional formats such as lectures, seminars and laboratory classes. In addition, ATU states that it also aims to use more innovative forms of teaching, such as student-centered learning, role-playing, case studies and project-based learning. Another method is to integrate modern technology into the classroom, for example through MOOCs (massive open online courses), DERs (digital education courses) or computer-aided design (CAD graphics).

ATU also emphasises the importance of scientific training in all its courses. For example, students are encouraged to practice their academic skills in a variety of student scientific societies such as "Cheese-Life", "Dairy Expert", "World of Canned Food", "Textile". The activities in these societies are regulated by the "Regulations on Scientific Student Circles of ATU".

Practical application is facilitated by various means, including laboratory sessions in relevant industries, educational and scientific production centers within the university, and dual training programmes in cooperation with various companies. This comprehensive approach is designed to ensure that students develop both the theoretical knowledge and practical skills essential for their future careers in the food and light industry.

As part of the annual programme review, ATU regularly checks that the learning and teaching methods support the achievement of the programme objectives.

The expert group considers the teaching methods and tools to be appropriate to support students in achieving the intended learning outcomes. They confirm that the programmes incorporate a variety of teaching and learning methods adapted to the specific subject culture. In particular, they appreciate the many points of contact that the four degree programmes offer with the industry and the application of theory in practice. The students echo the impression of the experts and report to be satisfied with the range of the teaching methods employed in the programmes under review.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 1:

The experts review the comment of ATU and appreciate the HEI's fast reaction and establishment of measures to implement most of the experts' recommendation.

For example, with regard to the experts' recommendation to increase the number of English courses offered to both students and teachers, ATU states that it has included improving the English skills of all ATU members in its development plan for 2023-2029. This includes increasing the number of classes taught in English and the number of English courses offered outside of study programmes, as well as including English proficiency as a requirement for hiring new teachers. The experts appreciate the ATU's efforts and believe that the overall English proficiency of all members will indeed continue to improve.

With reference to the experts' recommendation to include more modern content in the two study programme Light Industry and Textile, the experts note that ATU has established a plan to incorporate a number of new courses or content in existing courses, which are in line with the experts' recommendation. For example, ATU reports to introduce courses such as "Smart textile", "Nanotechnologies", "Environmentally friendly materials", "High performance fibers", "Reinforcement of composite materials with fibers", "Theoretical foundations of fashion design", and "Color theory" into the two study programmes. The experts welcome the plans and trust that they will be implemented in the near future. They consider that the recommendation has been fulfilled.

The experts also consider the ATU's explanation regarding the requirement to verify the total workload of students and to award ECTS points accordingly. The university states that the individual curriculum is made up of the student's own programme and the catalogue of electives, and that each student is guided by an academic advisor. However, the experts point out that the requirement is not (necessarily) directed at the total workload per semester due to the number of courses, but at the workload within the course, or in other words, at the alignment of the workload with the credits awarded for each individual course. The university must therefore assess (e.g. through surveys) whether students actually spend as much time on each course as indicated in the module descriptions (workload) and whether this is consistent with the credits awarded. For this reason, the requirement is not yet fulfilled.

The Criterion is predominantly fulfilled.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Regulations on the Procedure for the Conduct of Ongoing Progress Monitoring and Interim Certification of Students
- Regulations on the Preparation and Protection of Thesis/Thesis Projects
- Regulations on the Organization and Conduct of the Final Certification of Students
- Sample exams & Theses
- Self-Assessment Report
- Study plans
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the experts:
All examination-related rules and regulations are set out in the “Policy on the Assessment of Learning Outcomes”, the “Regulations on the Procedure for the Conduct of Ongoing Progress Monitoring and Interim Certification of Students”, and the “Regulations on the Organisation and Conduct of the Final Certification of Students”.

The examinations are organised and held at the Computer Testing Centre (CCT) in the form of tests. An independent board of examiners from the Department administers the oral and written examinations. There are two examination sessions per academic year: one in winter and one in summer at the end of each semester.

According to the self-assessment report, the programmes under review use examinations, tests, quizzes and oral examinations as forms of assessment. The experts note that the exact form of assessment is not specified in the curricula and module descriptions, but only 'exam' is mentioned as the form of assessment. The programme directors explain that it is common that module descriptions do not explain the assessment form in detail, as it is up to the teacher to choose the exact assessment form before the start of the semster. However, teachers assure that the exact form is chosen on the basis of the intended learning outcomes and communicated to students at the beginning of the semester. Students confirm that they receive all relevant information about the assessment, including the assessment form, criteria and date at the beginning of the course. They also learn that in reality a wider variety of examination forms is used than is indicated in the documents. For example, in the more practical and creative courses, students are required to carry out projects

and submit portfolios or the products of their work. In the case of internships, students have to submit an internship report for assessment. The experts are pleased to hear that a wider variety of assessment forms are used than originally expected and that students receive all information about assessments in good time.

Students are graded on a letter grade system from F to A, from the lowest to the highest. Students must receive at least a D to pass the course, otherwise they must repeat the course.

Students have the opportunity to discuss the results of their examinations with their teachers. In the event of disagreement with the examination mark, the student may submit an appeal. An appeal must be submitted to the Board of Appeal.

In case of illness, death of close relatives or other situations that prevent the student from taking an exam, the student is entitled to retake the exam. ATU has also put in place measures to support students with special needs, both in terms of examinations and general support. These policies are based on the Inclusive Education Regulations.

Assessment forms are annually evaluated in order to verify the correlation with intended learning outcomes on programme and module level.

Students state in the audit that they are generally satisfied with the examination system. They report that exams are well organized and distributed, and feasible in terms of the difficulty. Furthermore, they are content with the range of assessment forms and the mechanisms of grading.

After reviewing examination samples and conducting the audit interviews, the experts conclude that ATU has a sound examination system in place. They confirm that the assessment forms employed in the four degree programmes are adequate to assess the achievement of the course and programme learning outcomes. Furthermore, they consider that the level of the examinations is appropriate and corresponds to EQF level 6.

Final Thesis

Each programme ends with an internship (8 ECTS) and the final thesis (8 ECTS). The entire procedure, as well as the rules and rights of the members involved, are documented in the "Regulations on the Preparation and Protection of Thesis/Thesis Projects". The experts learn that the topic of the thesis is determined at the beginning of the final year. Each department has a list of possible topics on its website from which students can choose. Alternatively, they can propose their own topic or one suggested by the company. Students then carry out the internship where they collect relevant data as the first (practical) step of the

thesis. Students and lecturers report on cooperation with bakeries, breweries, dairy companies, textile companies, etc. After the internship, the students write the final thesis at the university. Students have eight weeks to complete this stage, before they defend their thesis. The experts review a few thesis samples during the audit and conclude that the thesis conducted in the four programmes has an adequate level of scientific work and corresponds to EQF level 6.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 2:

The experts find that ATU has met the criteria for Exams: System, Concept and Organisation.

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Self-Assessment Report
- Staff Handbook
- Study plans
- Module descriptions

Preliminary assessment and analysis of the experts:

According to the self-assessment report, the Food Products programme has 97 teachers (48 with a PhD, of whom 8 are full professors and 40 are associate professors). In Crop Processing Technology there are 73 teachers (48 with a doctorate, of which 8 are full professors and 40 are associate professors). In the Light Industry programme, there are 56 teachers (4 full professors, 20 associate professors, 8 members with a PhD and 25 with a master's degree). Finally, in the Textile Technology programme there are 51 teachers (1 professor, 13 associate professors and 5 members with a doctorate). The exact qualifications of the teachers are indicated in the staff handbook.

According to the ATU regulations, each teacher in charge of a technical course, according to the specialisation of the programme, must have at least a doctoral degree. The experts also learn that any teacher of a technical subject at ATU must have at least five years' experience in the industry and ten years' experience as a thesis supervisor. The student-teacher ratio is 1:8, which is in line with Kazakhstan's state education standards.

In addition, ATU regularly invites guest lecturers to teach in the four programmes under review. In recent years, professors from the Omsk State Agrarian University (Russia), Mendel University (Czech Republic), Tashkent Textile University (Uzbekistan) and the Technical University of Dresden, among many others, have visited ATU.

In the self-assessment report, the university provides a detailed overview of the main areas of research and the academic achievements of the individual departments. For example, the Department of Food Products focuses its research on the development of food products from traditional and non-traditional animal and vegetable raw materials, new types of products with long shelf-life, new types of therapeutic and prophylactic and specialised food products, etc. In the last five years, the Department has completed 17 scientific projects, published 121 scientific works, 43 of which were published abroad, obtained 34 patents for inventions and received 9 awards at prestigious international exhibitions.

In the area of plant processing, for example, the employees focus on the development of a high performance technology for the production of bakery and confectionery products from flour composite mixtures without sugar, and the development of an innovative technology of cavitation ionozons for the production of yeast-free bakery products with a shortened production cycle. In the last five years, the members of the department have carried out 21 scientific projects, published 331 scientific works (55 papers abroad) and received 17 patents for inventions.

The main areas of research in the Light Industry Department include improving the process of designing special clothing from innovative materials and studying various types of innovative adhesive compounds for the development of various types of clothing. They have completed 2 research projects, published 330 scientific articles (39 abroad), obtained 43 patents for inventions, and received 5 awards at exhibitions and competitions.

In the Department of Textile Technology, the research of the teachers is focused, among other things, on improving the method of separating down from goat's wool, developing an innovative technology for finishing textile materials using biocidal textile auxiliaries, and developing a technology for processing oil flax and hemp in Kazakhstan. The department participated in 8 projects, published 159 scientific articles (35 of them abroad) and was granted 6 patents.

From the documentation and discussions during the audit, the experts learn that ATU staff are very keen to introduce students to research work. For example, each year more than 30% of the Bachelor's degree theses are related to broader research projects and networks at ATU. In recent years, 66 students have been awarded prizes in national and international competitions for their scientific work.

From the teachers, the experts learn in the audit that the standard total workload of a teaching member is 1680 hours per year, of which 600 hours or more are devoted to teaching. However, the exact amount of time devoted to teaching depends on the position of the staff member: the higher the position and the more administrative duties a member of staff has, the lower the teaching load. For example, a full professor is expected to devote 600 hours per year to teaching, while a senior lecturer is expected to devote 650 hours. Teachers report that it is common to spend about two hours a day on scholarly research. Teachers report that the total time devoted to research is about 300 hours per year. When asked about their opinion of their workload, they report that they consider their workload to be reasonable and that they have sufficient time for teaching, research and development.

In the audit, the experts ask how teachers stay in touch with developments in the industry. Teachers explain that they have various research collaborations with companies, both nationally and internationally. They also tell the experts that teachers occasionally undertake internships and visits to companies. For example, one teacher visited a company in Spain to learn more about the technology used to make pasta. In addition, they receive information about the needs and developments in the industry through the annual roundtable discussions between teachers and industry partners.

The experts have the impression that the teaching staff at ATU is a well-organised and efficient team, with members working together to achieve the best results in terms of the study programmes and their personal academic careers. They appreciate the requirement that each teacher must have at least five years' experience in the industry, as this ensures that teachers are familiar with the requirements and mechanisms of the industry and the applied science of the respective discipline. The experts are also impressed by the high level of involvement of teaching staff in research in all four programmes under review, as evidenced by the large number of research projects, both within the university and in collaboration with industry, and published articles. This reinforces the experts' impression that the teaching staff are very committed and hard working. When students are asked for their feedback, they report being very satisfied with the competence of their teachers and the academic advice and support they receive from them.

In conclusion, the experts confirm that the composition, academic orientation and qualifications of the teaching staff are adequate for the successful implementation and continuation of the four programmes at the intended academic level. However, as mentioned in chapters 1.1 and 1.3, the experts wish that the strong involvement of teachers in research projects would also be more visible in the curriculum of the Textiles and Light Industry programmes, as it largely contains traditional subjects, while modern subjects are hardly covered in the study programme.

Staff Development

ATU actively encourages and supports its members to develop and progress academically. Each department has a plan to improve the qualifications of teaching staff in accordance with the requirements of the subject. In accordance with the law of the Ministry of Higher Education, all full-time academic and teaching staff of a higher education institution are obliged to improve their qualifications systematically, but at least once every five years. Continuing education is provided by centres for advanced studies at universities or other leading scientific and industrial organisations in Kazakhstan. The training covers didactics, languages and other areas of personal and academic development. According to the self-assessment report, more than 100 staff from the four study programmes participate in staff development training each year.

The experts find that ATU has an adequate support system for the development of its teachers. In the audit, teachers report that they are satisfied with ATU's mechanisms for staff development and that they feel adequately supported by senior management.

Criterion 3.2 Student Support and Student Services

Evidence:

- Self-Assessment Report
- Study plans
- Discussions during the audit

Preliminary assessment and analysis of the experts:
During the audit and the visit to the facilities, the experts learn that ATU generally provides a range of services to support all its students throughout their studies. These include psychological counselling and academic mentoring. Each student's progress is tracked electronically, and if a student's grade deteriorates, an alert is sent to ATU staff so that the relevant academic advisor can contact the student to discuss the issues and find ways to improve the student's performance.

The experts are also pleased to see that ATU provides a range of non-academic activities for its students, including sports facilities.

The experts also learn that ATU has several policies and services in place to provide a comprehensive student support system for all students. For example, ATU has made it its mission to provide inclusive education, which is defined and guided by the "Roadmap for the Development of Inclusive Education in Kazakhstan's Universities for 2023-2025". These

guidelines are complemented by the "Plan for the organisation of psychological and pedagogical support and education at ATU". In order to implement these plans, ATU has set up a special unit which, among other things, monitors the progress of students with special needs and provides them with support whenever necessary. In addition, ATU conducts an annual satisfaction survey of students with special needs and a SWOT analysis of inclusive education.

The experts conclude that ATU has sufficient human resources and organisational structures to help students achieve the learning outcomes and complete the respective study programme within the planned time.

Criterion 3.3 Funds and equipment

Evidence:

- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the experts:
ATU is a private university where the majority of the total funding for teaching and equipment comes from student fees. Additional funding comes from private companies and services provided by ATU. In addition, teachers generate income from research projects. In the audit, the Rectorate emphasises that the management allocates a certain budget for each year and that the funding for the four programmes under review is secured for the next seven years. Furthermore, the rectorate informs the experts that a new building is currently being planned to house classrooms and other facilities. On the basis of the documentation and the audit discussions, the experts are of the opinion that ATU provides secure funding and reliable financial planning for the four programmes for the coming accreditation period.

During the review, the experts visited the facilities and laboratories on the campus. The experts are impressed by the laboratories used for the Food Products and Crop Processing programmes. They come across a large number of laboratories specialising in the various segments of food and plant technology, such as dairy products, meat products, bakery, brewing and other beverages, and cereal products. They are particularly impressed by the EFES-sponsored microbrewery. They note that the laboratories are equipped with modern facilities that enable a wide range of activities to be carried out as part of the courses and also for research purposes. However, they consider that the current mechanical equipment for chemical analysis is rather outdated and recommend that it be replaced with more modern equipment.

For Textile Technology and Light Industry, the experts' opinion on the laboratories is divided. For example, the experts consider the laboratories for the areas in which the two departments specialise to be satisfactory. Thus, the laboratories for fire-resistant materials as well as for yarn, fibre and finishing technology are regarded by the experts as well equipped and in good condition. However, in parallel with the shortcomings of the course content in spinning, weaving and nonwovens in the Textile Technology programme, the experts note that the equipment in these areas is either lacking or outdated. Therefore, the experts agree that there is definite room for improvement in both the curricula and the laboratories. For example, the experts recommend including a sample machine of the ring spinning process. They also recommend the introduction of modern simple weaving machines with dobby for patterning (including colours and weave effects) and modern Jacquard weaving CAD software with fabric simulation. The experts add that software such as EAT/Design Victor, Nedgraphics or Penelope can be used in that regard. They explain that for weaving courses at bachelor level it is sufficient for students to train with simulations. According to the experts, the equipment used in the Light Industry programme is more in line with modern standards. However, they recommend that more CAD and visualisation software should be included in the programme, e.g. textile mapping software, 3D simulation software, more CAD Systems (Gerber, Lectra), CAD Sketch, CAD Illustration or CAD System Assist.

The experts also visit the library during the audit. They are impressed by the number of print and online resources available in the library. They also find that the library is well designed and offers students lots of space for individual and group study.

Both teachers and students indicate in the audit that they are satisfied with the resources available to them. For example, students appreciate that their request for a larger cafeteria and sports hall has been accepted and implemented by ATU. They also say that there could be more space for classrooms. However, with the new building in the planning stages, they are optimistic that the study space will soon be expanded.

Apart from the above-mentioned shortcomings, the experts consider that, overall, the infrastructure at ATU allows for the successful implementation of the four study programmes and the achievement of the intended learning outcomes.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 3:

With regard to the recommendation to include a ring spinning sample machine in the textile course, the HEI states that it plans to acquire such a machine by submitting a purchase request and including it in the "procurement plan" of the Department of Economics and

Budget Planning. The experts are confident that the Department of Textile Technology will follow through on its plans and acquire a sample machine of the ring spinning process in the next accreditation period.

With regard to the experts' recommendation to include more visualisation software in the Light Industry programme, ATU states that they will include courses on "Designing digital sewing enterprises", "CAD technology of sewing enterprises", "Digital costume sketch", "Fashion design in 3D", "Branding and marketing" providing adequate equipment for the completion of the courses. The experts welcome the plans and deem the recommendation to be fulfilled.

The HEI did not comment on the remaining recommendations, which are therefore maintained.

The Criterion is fulfilled.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Self-Assessment Report
- Module descriptions
- Websites of all study programmes

Preliminary assessment and analysis of the experts:

After studying the module descriptions the experts confirm that they include all necessary information (course name, course code, students' total workload, awarded ECTS points, grading scale, intended learning outcomes, content, recommended literature, possible pre-requisites, name of teacher/teachers in charge, exam methods, and assessment criteria). The students confirm during the discussions that information about the modules are always available online and that details concerning examinations and contents are provided at the beginning of each module by the teaching staff.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Exemplary diploma certificate per study programme
- Exemplary diploma supplement per study programme

- Exemplary transcript of records per study programme

Preliminary assessment and analysis of the experts:
The experts confirm that all graduates are awarded a Diploma and a Diploma Supplement in English after graduation. The Diploma consists of a Diploma Certificate and a Transcript of Records. The Diploma Supplement contains all required information about the degree programmes. The Transcript of Records lists all the courses that the graduate has completed, the achieved credits, grades, and cumulative GPA.

Criterion 4.3 Relevant Rules

Evidence:

- Self-Assessment Report
- All relevant regulations as published on the university's webpage
- Audit Discussions

Preliminary assessment and analysis of the experts:
The auditors confirm that the rights and obligations of both ATU and the students are clearly defined and binding. All rules and regulations are published on the university's website and students receive course materials at the beginning of each semester. In addition, all relevant information about the programmes is available on the programme homepages.

However, as mentioned in chapter 1.5, the experts recommend that the ATU should communicate more clearly to students the mechanisms behind the new study platform called "Hero Study Space" and the new system for calculating grades and credits.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 4:

Regarding the recommendation to make information about the semester timetable, the credit system and the calculation of grades more transparent for students, the ATU states that both advisors and members of the Information Technology Department assist students with the Hero Study Space portal. The experts welcome the support offered to students through the new portal. However, they point out that the main problem that arose during the audit was that students did not know exactly what the new grading system looked like and which components were now included in the final module grade and to what extent. Therefore, the experts consider that the recommendation should be maintained and assessed in the next accreditation process.

Criterion is fulfilled.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Samples of surveys for students, teachers and industry partners
- Reports of the survey results
- Discussions during the audit

Preliminary assessment and analysis of the experts:
From the documentation and discussions during the audit, the experts learned that ATU has a systematic process for reviewing all programmes. Each programme is reviewed annually, taking into account both internal and external evaluation. The external review is largely based on feedback from students, alumni, industry partners, employers of alumni and overseas faculty. Feedback is collected through regular surveys. For example, at the end of each semester, students are invited to take part in surveys on their opinion of courses and teaching, as well as their overall satisfaction with the programmes, the University and their progress in their studies. Once a year, roundtable discussions are held where members of the department and a number of industry representatives discuss the results of the internal and external evaluations and develop measures for improvement for each programme. The results and proposals are forwarded to the Commission for Quality Assurance of the Faculties, which has to approve the proposals. The procedure and responsibilities for the quality management of study programmes are defined in the ATU guidelines.

The experts consider that ATU has a sound quality management system in place, which takes into account feedback from all stakeholders in the regular review of study programmes. Industry partners confirm in the audit that they are regularly consulted about their feedback and that their suggestions are generally taken on board by ATU.

Students are equally satisfied with ATU's quality management. They say that there are many ways to communicate their concerns and suggestions. Apart from surveys, students can also give feedback directly to teachers or via the ATU website. However, when asked whether they receive the results of the surveys, the students report that the teachers do not inform them. The experts learn from the teachers that the evaluation results are discussed internally among teachers and administrators and are also communicated to the Faculty Quality Assurance Commission. The commission is also made up of student representatives. According to ATU, in this way students are also informed about the evaluation

results. The experts understand the procedure. However, they emphasise that this process does not meet the criteria of ASIIN. Accordingly, the university must ensure that all students of the respective programmes are informed or at least have access to the evaluation results. As the evaluation results are only shared with a few students and are not published, the students do not have the opportunity to learn about the results of the survey. The students say that they can nevertheless see that ATU implements measures based on their feedback, such as the aforementioned construction of the sports hall or the cafeteria. The experts are pleased to see that quality assurance is functioning and responding to student feedback, but they demand that the evaluation results be made available to all students. The ATU is free to choose how it communicates this information to students - whether by discussing the results in class, by e-mail or by other means.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 5:

ATU states that all evaluation results are accessible to all students concerned as they are uploaded to the university's quality management website. The experts verify that the evaluation results are indeed published online at the link provided. They conclude that the requirement is fulfilled.

Criterion is fulfilled.

D Additional Documents

No additional documents needed.

E Comment of the Higher Education Institution (03.06.2024)

The institution provided a detailed statement as well as the following additional documents:

"**Criterion 1.1 Objectives and Learning Outcomes of a Degree Program (Intended Qualifications Profile)**

Being accredited four Bachelor degree programs that are annually updated with account of labor market requirements and added to the Register of degree programs of Unified platform of degree programs

- Ba Technology of Food Products https://epvo.kz/#/register/education_program/application/53247
- Ba Crop Processing Technology https://epvo.kz/#/register/education_program/application/46225
- Ba Technology and Design of Light Industry Products
- https://epvo.kz/#/register/education_program/application/45885
- Ba Technology and Design of Textile Materials
- https://epvo.kz/#/register/education_program/application/46985

Criterion 1.3 Curriculum

JSC «ATU» agrees and thankful to ASIIN expert group for professional support in improving DPs. Ba Technology and Design of Textile Materials and DP Ba Technology and Design of Textile Materials will be upgraded through introducing the disciplines "Smart textile", "Nanotechnologies", "Environmentally friendly materials", "High performance fibers", "Reinforcement of composite materials with fibers", "Theoretical foundations of fashion design", «Color theory».

Map of availability of educational literature for DP Ba Technology and Design of Textile Materials:

https://drive.google.com/file/d/1RUgOxWGbPlQJSG2YxrqpxVCm7UUAKc9R/view

Literature on new disciplines Ba Technology and Design of Textile Materials:

https://docs.google.com/document/d/1oj4Pes0ifGIaS9jl3qeUUgM3mjoN3yV2/edit

On degree program Ba Technology and Design of Light Industry Products trainees study such disciplines as: Drawing and basics of composition, Color science and colouristics, History of costume and fashion, Costume composition.

In section «Theory of morphology» there is studied the discipline «Basics of applied anthropology».

All enumerated disciplines of DP Ba Technology and Design of Light Industry Products are at: https://epvo.kz/#/register/education_program/application/45885

Proceeding from institutional accreditation of JSC «ATU» by ASIIN, the experts offered to increase the **teaching staff language competence.** The recommendation thereof was included into the Program of JSC «ATU» development for 2023-2029 years. Increase of the teaching staff share, rendering lectures in the English language will increase annually. Thus, according to the analysis for the base year, at JSC "ATU", 21% of the teaching staff of the total number of teachers render lessons in English, this figure will be increased to 50% by 2029. An annual increase of 5% will be achieved thanks to planned activities to improve the language competencies of the teaching staff.

Implementation of this strategic task is carried out by the department of "State and Foreign Languages", which runs the "English Language Club" and the "Competence Center" where "English Language Courses" operate.

JSC "ATU" annually announces a Competition to fill vacant positions of teaching staff for the upcoming academic year, https://atu.edu.kz/news/vnimanie-konkurs_271/, which sets requirements to new teachers to speak English before starting work at ATU. Thus, to conduct classes in English, knowledge of the English language is required (IELTS at least 5.5)."

Thus, with an increase in the proportion of the teaching staff speaking English, JSC 'ATU' will be able to increase the number of disciplines taught in English as part of their DPs.

Confirming documents:

1. Program of JSC "Almaty technological university" development for 2023-2029. Page 31, Strategic guideline 1 DEVELOPMENT OF HIGHER AND POST GRADUATE STUDY. Task 3. Paragraph 4.

https://drive.google.com/file/d/1bfZfO3eHtznXvG3xvqrnAUBglRRlxNrQ/view

2. «English language club»
https://www.instagram.com/p/C55StDOsAFN/?igsh=MXM4bXUzMnFkM3ptMQ==
https://www.instagram.com/p/C5WRaGgMH__/?igsh=bDJzdWVsbzljaTQz
https://www.instagram.com/p/C4pM9vct_XU/?igsh=MW9yaHUwMTNuYmUxeA==

https://drive.google.com/file/d/19gQr7L-mMVEKCz38GgyX2fmkTkvqhoW3/view?usp=sharing

3. «English language courses» https://www.instagram.com/p/CzAw3Fbs8yk/?igsh=MXFmMDZkbmxyeDYzdw==
https://www.instagram.com/p/Cw2ECosL-dz/?igsh=MW95cDEyc2V2ajltdw==

Bachelor degree trainees undertake an internship (practical training 2 ESTC, externship 5 ESTC and pre-diploma practice 8 ESTC) according to "Rules of academic process organization on credit technology education in institutions of higher and (or) postgraduate education", Order on education and science of the Republic of Kazakhstan dated April, 2011 No. 152. Registered at the Ministry of Justice of the Republic of Kazakhstan, May 27, 2011 No. 6976. https://adilet.zan.kz/rus/docs/V1100006976

Criterion 1.4 Admission Requirements

One of the mechanisms for increasing the number of students is to attract students to online training programs. JSC "ATU" has experience in online learning with Coursera. Currently, a package of documents for licensing online training has been compiled.

Criterion 1.5 Workload and Credits

Individual Curriculum (IC)
https://drive.google.com/drive/folders/1CrZbtk88HAPB04rBjJtfNvzyXLZKfnPG
https://drive.google.com/drive/folders/1CrZbtk88HAPB04rBjJtfNvzyXLZKfnPG

Individual Curriculum (IC) is formed by the student independently based on the Educational Program (EP) and Catalog of Elective Disciplines (CED). The IC is signed by the student, the advisor, and the dean of the faculty, which indicates that there is control over the formation of the student's academic load.

Criterion 2 Exams, System, Concept and Organization

The current assessment is carried out in accordance with the "Regulations on the procedure for conducting ongoing monitoring of academic performance and intermediate certification of students» ATU-OR-RP-7.5.1-2022-01

https://drive.google.com/file/d/1kXlRagDU_FnSAv55Gm6j9Idd-vZfUEK3/view

and includes regular written tests, independent work, independent work under teachers supervision, assessing practical lessons and laboratory works, presentations, abstracts, group projects with account of activity level and involvement of trainees. Evaluation of

students' work during practical training or internship in real conditions. The final assessment is fulfilled in accordance with the «Rules for organizing and carrying out the final certification of students», ATU-OR-RP-7.5.1-2023-10

https://drive.google.com/file/d/1j8yIL6G03qdC6wihNDCmBgDcBj5Aw-aR/view?usp=sharing and includes final exams, defense of Start Up projects.

3. Resources

Criterion 3.1 Staff and Development

The results of the scientific activities of teachers in research projects on fire-resistant workwear were introduced into the academic process and used to update the DP "Technology and Design of Textile Materials": new lectures and practical classes on fire-resistant textile materials were included; laboratory works have been created on the use of new fire-resistant materials; interdisciplinary lecture courses have been introduced, covering aspects of chemistry, physics, materials science and engineering, related to the development of fire-resistant materials.

On degree program “Technology and constructing products of light industry” there rendered the disciplines, according to requirements of labor market, such as «Designing digital sewing enterprises», «CAD technology of sewing enterprises», and, as well, it is planned further to study such disciplines as «Digital costume sketch”, “Fashion design in 3D”, “Branding and marketing” https://epvo.kz/#/register/education_program/application/45885.

Confirming documents

https://epvo.kz/#/register/education_program/application/45885

Criterion 3.3 Funds and equipment

The advantage of the ring spinning process is the flexibility of the process, the ability to produce different types of strong, uniform yarn. Students study machine design, specific models, brands, processes (stretching, spinning, winding) and automation control of ring spinning machines.

To train students on a real ring spinning machine, research and study of various types and brands used in the academic process is carried out. Upon selection of a ring-spinning machine for the academic process, a purchase application will be drawn up and included in the “Procurement Plan” of the Department of Economics and Budget Planning.

On the degree program «Technology and Design of Light Industry Products» trainees study such disciplines as «Designing garments in CAD», “CAD technologies of sewing enterprises), https://epvo.kz/#/register/education_program/application/45885,

as well, there is planned to study such disciplines as “Digital costume sketch”, ‘Basics of 3D clothing modeling’, ‘Designing clothes in 3D’, ‘Branding and marketing’.

Confirming documents

https://epvo.kz/#/register/education_program/application/45885

4. Transparency and Documentation

Support and assistance are provided to students in using the educational platform “Hero Study Space” by advisors together with Information Technology Department. They explain to students the educational platform “Hero Study Space”, ease of use, accessibility, main functions and capabilities; entering into the Hero Study Space system using a login and password; menus and navigation; access to educational materials (lectures, tasks, videos, etc.); grade tracking; convenience, functionality, interface, etc. Technical support and training videos are available.

5. Quality management: quality assessment and development

The results of the surveys are discussed at the Academic Council, at meetings of the Rectorate, which include representatives of students, and at student supervision hours together with advisors.

Students are informed through the ATU website https://atu.edu.kz/

(subsection: anti-corruption) https://atu.edu.kz/university/combating-corruption/

Analysis of the survey during the “Clean Session” campaign

https://docs.google.com/document/d/1-RRMSYY0jLm-nwFwMwiPH8hHX10y4cwpt/edit#heading=h.gjdgxs

The results of the survey “Quality of teaching - student’s opinion” are published on the ATU website https://atu.edu.kz/ (section of quality management system)

https://atu.edu.kz/university/management-system/

Comments of ATU

Analysis of the survey during the “Clean Session” campaign

Conduct date December 25 – 28, 2023 https://docs.google.com/document/d/1-RRM-SYY0jLmnwFwMwiPH8hHX10y4cwpt/edit#heading=h.gjdgxs

https://drive.google.com/file/d/12m91i0-3MpjqM6H14Xhdq_0VMKxxlJrO/view

Results of the computerized survey for the questionnaire

"Teaching Quality - Student's Opinion" during the summer exam session (06.05.2024-26.05.2024)

ttps://drive.google.com/file/d/1acIQxaISqnZaIBMvzJQGgERTHAEAuGBR/view

F Summary: Expert recommendations (06.06.2024)

Taking into account the additional information and the comments given by Almaty Technological University the peers summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Technology of Food Products	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029
Ba Crop Processing Technology	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029
Ba Technology and Design of Light Industry Products	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029
Ba Technology and Design of Textile Materials	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029

Requirements

For all programmes

A 1. (ASIIN 1.5) Verify the students' total workload and award the ECTS points accordingly.

Recommendations

For all programmes

E 1. (ASIIN 1.3, 4.3) It is recommended that information on the semester timetable, the credit system and the calculation of grades be made more transparent to students.

Ba Technology and Design of Textile Materials

E 2. (ASIIN 1.3) It is recommended to reduce the curriculum content in chemical textile finishing and knitting and to increase the content in spinning, weaving and non-wovens.

E 3. (ASIIN 3.3) It is recommended to include modern simple weaving machines with Dobby for patterning (including colours and weave effects) and modern jacquard weaving CAD software with fabric simulation.

Ba Food Technology and Crop Processing

E 4. (ASIIN 3.3) It is recommended that the mechanical equipment for chemical analysis be updated.

G Comment of the Technical Committees (03.06.2024)

Technical Committee 01 – Mechanical Engineering/Process Engineering (07.06.2024)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the accreditation process and follows the experts' vote without any changes.

Assessment and analysis for the award of the EUR-ACE® Label:

The Technical Committee deems that the intended learning outcomes of the degree programmes do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 01 – Mechanical Engineering/Process Engineering.

The Technical Committee 01 – Mechanical Engineering/Process Engineering recommends the award of the seals as follows:

Degree Programme	**ASIIN Seal**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Technology of Food Products	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029
Ba Crop Processing Technology	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029
Ba Technology and Design of Light Industry Products	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029
Ba Technology and Design of Textile Materials	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029

*Subject to the approval of the ENAEE Administrative Council

Technical Committee 08 – Agriculture, Nutritional Sciences and Landscape Architecture (04.06.2024)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the accreditation process and follows the experts' vote without any changes.

Assessment and analysis for the award of the EUR-ACE® Label:

The Technical Committee deems that the intended learning outcomes of the degree programmes do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 08 – Agriculture, Forestry and Food Sciences.

The Technical Committee 08 – Agriculture, Forestry and Food Sciences recommends the award of the seals as follows:

Degree Programme	**ASIIN Seal**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Technology of Food Products	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029
Ba Crop Processing Technology	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029

*Subject to the approval of the ENAEE Administrative Council

H Decision of the Accreditation Commission (28.06.2024)

Assessment and analysis for the award of the subject-specific ASIIN seal:

The commission discusses the accreditation procedure and proposes to change the wording of Recommendation E4 as “manually operated equipment” is more appropriate in this context instead of “mechanical equipment".

Assessment and analysis for the award of the EUR-ACE® Label:

The Accreditation Commission deems that the intended learning outcomes of the degree programmes do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committees 01 and 08.

The Accreditation Commission decides to award the following seals:

Degree Programme	**ASIIN Seal**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation***
Ba Technology of Food Products	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029
Ba Crop Processing Technology	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029
Ba Technology and Design of Light Industry Products	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029
Ba Technology and Design of Textile Materials	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2029

*Subject to the approval of the ENAEE Administrative Council

Requirements

For all programmes

A 1. (ASIIN 1.5) Verify the students' total workload and award the ECTS points accordingly.

Recommendations

For all programmes

E 1. (ASIIN 1.3, 4.3) It is recommended that information on the semester timetable, the credit system and the calculation of grades be made more transparent to students.

Ba Technology and Design of Textile Materials

E 2. (ASIIN 1.3) It is recommended to reduce the curriculum content in chemical textile finishing and knitting and to increase the content in spinning, weaving and non-wovens.

E 3. (ASIIN 3.3) It is recommended to include modern simple weaving machines with Dobby for patterning (including colours and weave effects) and modern jacquard weaving CAD software with fabric simulation.

Ba Food Technology and Crop Processing

E 4. (ASIIN 3.3) It is recommended that the manually operated equipment for chemical analysis be updated.

I Fulfilment of Requirements (27.06.2025)

Analysis of the experts and the Technical Committees (05.06.2025)

Requirements

For all degree programmes

A 1. (ASIIN 1.5) Verify the students' total workload and award the ECTS points accordingly.

Initial Treatment	
Peers	Fulfilled Justification: ATU states that it has issued a regulatory document entitled 'Regulation on the Procedure for Calculating and Confirming the Workload of Educational Programmes and Courses in Credits'. The regulation stipulates that the student survey must include a question about the number of hours in the student's workload. The provided sample student survey confirms that a precise question has been included, asking students how many hours they spend on independent studies in the respective module as well as their total workload.
TC 01	Fulfilled Justification: The TC follows the vote of the experts.
TC 08	Fulfilled Justification: The TC follows the vote of the experts.
AC	fulfilled Justification: The AC follows the vote of the experts.

Decision of the Accreditation Commission (27.06.2025)

Degree Programme	**ASIIN Seal**	**Accreditation until max.**	**Subject-specific label**	**Accreditation until max.**
Ba Technology of Food Products	All requirements fulfilled	30.09.2031	EUR-ACE®	30.09.2029
Ba Crop Processing Technology	All requirements fulfilled	30.09.2031	EUR-ACE®	30.09.2029
Ba Technology and Design of Light Industry Products	All requirements fulfilled	30.09.2031	EUR-ACE®	30.09.2029

Degree Programme	ASIIN Seal	Accreditation until max.	Subject-specific label	Accreditation until max.
Ba Technology and Design of Textile Materials	All requirements fulfilled	30.09.2031	EUR-ACE®	30.09.2029

Appendix: Programme Learning Outcomes and Curricula

According to the self-assessment report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Technology of Food Products:

Competencies	Symbols	Learning outcomes	Module name
General cultural	LO1	Demonstrates knowledge in the field of social-humanitarian sciences, forming a personality with a broad outlook, a culture of thinking and academic honesty	World viewing
			Module of social-political knowledge
	LO 2	Able to communicate in Kazakh, Russian, foreign languages to solve problems of interpersonal and intercultural interaction	Communicative
	LO3	Uses advanced technology, information and digital technologies in the field of professional activity	Communicative Minor – Development of digital competencies
	LO4	Uses knowledge of the basics of economics, law and life safety in the field of professional activity	Module of economic-legal and ecological knowledge
Ge ner -	LO5		Physics-mathematics

Competencies	Symbols	Learning outcomes	Module name
		Applies knowledge of mathematics, laws of physics and mechanics to solving professional problems in the field of food production	Engineering-technological
	LO6	Uses the basic laws of natural sciences in solving professional problems in scientific activities and in food production	Natural-scientific
	LO7	Applies knowledge of scientific research methods, genres of academic writing and principles of scientific ethics to the field of professional activity	
Vocational	LO8	Provides safety and labor protection in the conditions of modern food industry and public catering enterprises	Teaching-production
	LO9	Organizes the technological process at the enterprises of the food industry (meat, dairy, canning) and public catering for the production of high-quality products	Organizational-technological
			Production-technological
			Technological
	LO10	Organizes the effective functioning of the quality control system for food products and services according to regulatory documents	Research
	LO11	Efficiently operates various types of technological equipment in the food industry and catering in accordance with safety requirements	Rated
	LO12	Participates in the design, reconstruction and equipping of food production and public catering enterprises	Rated Module of production intensification
	LO13	Uses scientific knowledge to improve the efficiency of food production and solve practical problems	Scientific
	LO 14	Applies knowledge of economics and entrepreneurship to organization of business in food industry and catering	Economic
			Minor – Account and taxation at enterprises

Competencies	Symbols	Learning outcomes	Module name
	LO 15	Applies analytical and research skills to solve practical problems in the food industry and catering	Module of final attestation

The following **curriculum** is presented:

1 semester	2 semester	3 semester	4 semester	5 semester	6 semester	7 semester	8 semester
M 1	M 8	M 15	M 21	M 29	M 35.1	M 41	M 47.1
History of Kazakhstan	Foreign language	Philosophy	Physical culture	Processes and devices of food manufactures	Technology of storage of food products	Labor protection in the food industry (in a second language)	Development of new food products (in English)
2 lec., 1 prac.	3 prac.	2 lec., 1 prac.	2 prac.	1 lec., 1 prac., 1 lab.	M 35.2	1 lec., 1 prac.	M 47.1
5 ECTS	5 ECTS	5 ECTS	2 ECTS	5 ECTS	Protection and security of data in the digital environment	3 ECTS	New in Food Technology (in English)
exam	**exam**	**exam**	**d/c**	**exam**	M 35.3	**exam**	1 lec., 2 lab.
					Taxes and taxation		5 ECTS
					2 lec., 1 prac.		**exam**
					5 ECTS		
					exam		
M 2	M 9	M 16	M 22	M 30	M 36	M 42.1	M 48.1

Foreign language	Kazakh (Russian) language	Psychology. Culturology. Sociology and political science	Module of economic, legal and environmental knowledge (Fundamentals of economics and entrepreneurship, fundamentals of law and anti-corruption culture, ecology and life safety)	Methods and organization of scientific research (in English)	Food quality and safety	Economics of food industry enterprises. Business planning	Automation of technological processes (in a second language)
3 prac.	3 prac.	4 lec., 4 prac.	3 lec., 3 prac.	2 lec., 1 prac.	2 lec., 1 prac.	M 42.2	M 48.2
5 ECTS	5 ECTS	8 ECTS	5 ECTS	5 ECTS	5 ECTS	Organization of business activities	Electric drives of typical industrial installations (in a second language)
exam	**exam**	**exam**	**exam**	**exam**	**exam**	2 lec., 1 prac.	1 lec., 2 prac.
						5 ECTS	4 ECTS
						exam	**exam**
M 3	M 10	M 17	M 23	M 31.1	M 37.1	M 43.1	M 49.1
Kazakh (Russian) language	Information and communication technologies	Physical culture	Biochemistry	Service in catering	Technology of catering products 2	Accounting for catering (in English)	Organization of production at catering establishments
3 prac.	1 lec., 1 prac.	2 prac.	1 lec., 2 lab.	M 31.2	M 37.2	M 43.2	M 49.2
5 ECTS	5 ECTS	2 ECTS	5 ECTS	Basics of livestock and raw materials production	Technology of meat and meat products 2	Packaging technology (in English)	Organization of production at food establishments
exam	**exam**	**d/c**	**exam**	1 lec., 1 prac.	M 37.3	1 lec., 2 prac.	3 prac.
				3 ECTS	Technology of milk and dairy products 2	5 ECTS	5 ECTS
				exam	M 37.4	**exam**	**exam**
					Technology of canned food 2		
					1 lec., 2 lab.		
					5 ECTS		

					exam		
M 4	M 11	M 18	M 24	M 32.1	M 38.1	M 44.1	M 50
Physical culture	Physical culture	Physical and colloidal chemistry	Theoretical foundations of food technology	Physico-chemical and biochemical fundamentals of food processing	Equipment of catering	Sustainable production	Externship practice
2 prac.	2 пр.	1 lec., 2 lab.	2 lec., 1 prac.	M 32.2	M 38.2	M 44.2	8 ECTS
2 ECTS	2 ECTS	5 ECTS	5 ECTS	Physico-chemical and biochemical basis of meat and fish raw materials processing	Equipment of meat industry establishments	Data mining	**Report protection**
d/c	**d/c**	**exam**	**exam**	M 32.3	M 38.3	M 44.3	
				Physico-chemical and biochemical principles of milk processing	Equipment of dairy industry establishments	1 C: Accounting - 8.2	
				1 lec., 2 lab.	M 38.4	2 lec., 1 prac.	
				5 ECTS	Equipment of canning industry establishments	5 ECTS	
				exam	1 lec., 1 prac., 1 lab.	**exam**	
					5 ECTS		
					exam		
M 5	M 12	M 19	M 25.1	M 33	M 39.1	M 45.1	
Engineering and computer graphics	Mathematics II	Theoretical and applied mechanics	Commodity research of food products	General technology of food production	Technochemical control and quality management at catering establishments	Technology of special purpose products (in a second language)	
1 lec., 2 lab.	1 lec., 1 prac.	1 lec., 1 prac., 1 lab.	M 25.2	3 lec., 2 prac.	M 39.2	M 45.2	
5 ECTS	3 ECTS	5 ECTS	Introduction to digital technologies	7 ECTS	Technochemical control and quality management at meat industry establishments	Technology of fish products (in a second language)	
exam	**exam**	**exam**	M 25.3	**exam**	M 39.3	M 45.3	

			Accounting basics		Technochemical control and quality management at dairy establishments	Technology of canned milk and baby food products (in a second language)	
			2 lec., 1 prac.		M 39.4	M 45.4	
			5 ECTS		Technochemical control and quality management at canned food and food concentrates establishments	Technology of food concentrates (in a second language)	
			exam		1 lec., 2 lab.	1 lec., 2 lab.	
					5 ECTS	5 ECTS	
					exam	**exam**	
M 6	M 13	M 20	M 26.1	M 34.1	M 40	M 46.1	
Inorganic and Organic Chemistry	Analytical Chemistry	Microbiology	Nutrition physiology (in English)	Technology of catering products 1	Work practice	Design of catering establishments	
1 lec., 2 lab.	1 lec., 2 lab.	1 lec., 2 lab.	M 26.2	M 34.2	5 ECTS	M 46.2	
5 ECTS	5 ECTS	5 ECTS	Sensory analysis (in English)	Technology of meat and meat products 1	**Report protection**	Design of meat industry establishments	
exam	**exam**	**exam**	1 lec., 1 prac.	M 34.3		M 46.3	
			3 ECTS	Technology of milk and dairy products 1		Design of dairy industry establishments	
			exam	M 34.4		M 46.4	
				Technology of canned food 1		Design of canning industry establishments	
				1 lec., 2 lab.		2 lec., 3 prac.	
				5 ECTS		7 ECTS	
				exam		**exam**	
M 7	M 14		M 27.1				

Mathematics I	Physics		Food sanitation and hygiene (in English)				
1 lec., 1 prac.	1 lec., 1 prac., 1 lab.		M 27.2				
3 ECTS	5 ECTS		Food microbiology (in English)				
exam	**exam**		1 lec., 1 prac.				
			3 ECTS				
			exam				
			M 28				
			Educational training practice				
			2 ECTS				
			Report protection				
∑5 lec.+4 lab.+11 prac.=20ч/нед	∑4 lec.+3 lab.+11 prac.=18ч/нед	∑9 lec.+4 lab.+8 prac.=21ч/нед	∑10 lec.+2 lab.+9 prac.=21ч/нед	∑9 lec.+5 lab.+5 prac..=19ч/нед	∑7 lec.+5 lab.+3 prac.=15ч/нед	∑9 lec.+2 lab.+8 prac.=19ч/нед	∑2 lec.+2 lab.+5 prac.=9ч/нед
6 exam., 1 d/c	6 exam., 1 d/c	6 exam., 1 d/c	6 exam., 1d/c, 1 practice report	6 exam.	5 exam., 1 practice report	6 exam.	3 exam., 1 practice report
30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS
Component of choice 0 ECTS 0%	Component of choice 10 ECTS -37,50%	Component of choice 7 ECTS -28,60%	Component of choice 9 ECTS -28,60%	Component of choice 23 ECTS -66,60%	Component of choice 18 ECTS -66,60%	Component of choice 15 ECTS -100%	Component of choice 20 ECTS -100%

According to the self-assessment report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Crop Processing Technology:

Module name	Learning outcomes	Disciplines:
World-viewing	LO1- Demonstrates knowledge of modern topical methodological and philosophical problems of natural and social sciences, as well as, special branches of scientific knowledge in accordance with the chosen specialization;	Modern history of Kazakhstan Philosophy
	LO2 - Able to communicate in Kazakh, Russian, foreign languages to solve problems of interpersonal and intercultural interaction	Kazakh language Russian language Foreign language Professional foreign language
Module of social-political knowledge	LO3 - Demonstrates knowledge of the trends in the social development of society and socio-ethical values, based on social norms, traditions, customs and focuses on them in various social situations and in professional activities	Psychology Culturology Sociology Political science
Module of communication	LO4 - Uses advanced technology, information and digital technologies in the field of professional activity	Information-communication technologies
	LO5 - Able to communicate in Kazakh, Russian, foreign languages to solve problems of interpersonal and intercultural interaction	Kazakh language Russian language Foreign language

Module name	Learning outcomes	Disciplines:
Module of economic-legal and ecological knowledge	LO6 Uses knowledge of the basics of economics, law and life safety in the field of professional activity	Module of economic, legal and environmental knowledge (Fundamentals of Economics and Entrepreneurship, law, ecology and life safety)
Physics-mathematics module	LO7 - Applies the knowledge of mathematics, the laws of physics and mechanics in solving professional problems in the production of products of processing industries	Mathematics, physics
Module of engineering-technology	LO8 - Applies the laws of mechanics and processes of food production to the successful study of profile disciplines and to solving professional problems in the processing industries	Engineering and computer graphics Theoretical and applied mechanics Processes and apparatuses of food production
Natural sciences module	LO9 - Demonstrates knowledge of the theoretical foundations of inorganic, organic, analytical and physical-colloid chemistry, their basic concepts and laws, governing chemical processes	Nonorganic and organic chemistry Analytical chemistry physical and colloid chemistry
	LO10- Demonstrates knowledge of microbiology and biochemistry in processing industries	Biochemistry of grain and products of its processing Biochemistry of beer Sanitation and hygiene of enterprises of bakery, confectionery and pasta production
	LO11- Uses knowledge of the methodological foundations of scientific research in scientific activities and the genres of academic writing in the presentation of information	Fundamentals of Scientific Research Scientific and design research in the grain processing industry
	LO12- Provides safety and labor protection in the conditions of modern enterprises of the processing industry	Labor protection in the food industry Educational practice
Module of final attestation	LO13 –Organizes the technological process at the enterprises of the processing industry (grain processing, baking, pasta, confectionery, fermentation and winemaking) for high-quality production	Processing and storage of crop products Raw materials in grain processing industry, Composition and properties of raw materials for

Module name	Learning outcomes	Disciplines:
		bakery, pasta and confectionery industries, Food additives in the beverage industry, Food additives in the technology of bakery, pasta and confectionery industries, Grain science with the basics of crop production, Rheological foundations of bread, pasta and confectionery products, Raw materials in fermentation production

The following **curriculum** is presented:

1 semester	**2 semester**	**3 semester**	**4 semester**	**5 semester**	**6 semester**	**7 semester**	**8 semester**
M 1	M 8	M 15	M 21	M 28	M 34	M 39	M 44
History of Kazakhstan	Foreign language(in English)	Philosophy	Physical culture	Equipment of the enterprises of processing industries(in a second language)	Biochemistry of grain and products of its processing	Technology of cereal production	Labor protection in the food industry (in English)
2lec., 1 prac.	3 prac.	2 lec., 1prac.	2 prac.	2 lec.,1 prac.	M 34.1	M 39.1	2 lec.,1 prac.
5 ECTS	5 ECTS	5 ECTS	2 ECTS	5 ECTS	Recipe, accounting and rationing of products	Technology of confectionery production	4 ECTS
exam	**exam**	**exam**	**exam**	**exam**	M 34.2	M 39.2	**exam**
M 2	M 9	M 16	M 22	M 29	Biochemistry of beer	Winemaking technology	M 45
Foreign language(in English)	Kazakh (Russian) language	Socio-Political Knowledge Module (Psychology. Culturology. Sociology and political science)	Module of economic, legal and environmental knowledge (Fundamentals of economics, entrepreneurship, fundamentals of law and anti-corruption culture, ecology and life safety)	Fundamentals of scientific research	M 34.3	2 lec.,2 лаб.	Sugar production technology
3 prac.	3 prac.	2 lec., 3 prac.	2 lec., 1 prac.	2 lec.,1 prac.	Financial Accounting	6 ECTS	2 lec.,1 prac.
5 ECTS	5 ECTS	8 ECTS	5 ECTS	5 ECTS	M 34.4	**exam**	5 ECTS
exam	**exam**	**exam**	**exam**	**exam**	Enterprise economy		**exam**
M 3	M 10	M 17	M 23	M 30	M 34.5	M 40	M 45

Kazakh (Russian) language	Information and communication technologies	Physical culture	Biochemistry	Grain science with the basics of crop production (in English)	Data protection and security in the digital environment	Design of grain processing enterprises	Pre-graduate practice
3 prac.	1 lec., 1 prac. 1 lab.	2 prac.	1 lec., 1 prac. 1 lab.		1 lec.,2 prac.	M 40.1	8 ECTS
5 ECTS	5 ECTS	2 ECTS	5 ECTS		5 ECTS	Design of bakery, pasta and confectionery enterprises	**Report protection**
exam	**exam**	**exam**	**exam**	M 30.1	**exam**	M 40.2	M 46
				Rheological bases of bread, pasta and confectionery (in English)		Design of fermentation plants and winemaking	Scientific and design research of grain processing industries (in a second language)
M 4	M 11	M 18	M 24	M 30.2	M 35	2 lec.,3 prac.	M 46.1
Physical culture	Physical culture	Physical and colloidal chemistry	Processes and devices of food manufactures	Food additives in the beverage industry (in English)	Food quality and safety (in English)	8 ECTS	Scientific and design research of bakery, pasta and confectionery production (in a second language)
2 prac.	2 prac.	1 lec., 2 lab.	1 lec., 1 prac. 1 lab.	1 lec.,1 prac.	2 lec.,1 prac.	**exam**	
2 ECTS	2 ECTS	5 ECTS	5 ECTS	3 ECTS	5 ECTS		M 46.2
exam	**exam**	**exam**	**exam**	**exam**	**exam**		Scientific and design research in the fermentation industry(in a second language)
M 5	M 12	M 19	M 25.1	M 31	M 36	M 41	M 46.3
Engineering and computer graphics	Mathematics II	Theoretical and Applied Mechanics	Raw materials in grain processing industry (in English)	Theoretical foundations of grain processing industries	Manufacturing practices	Feed production technology	1 C: Accounting - 8.2

1 lec., 2 lab.	1 lec., 1 prac.	1 lec., 1 prac., 1 lab.	M 25.2	M 31.1	**Report protection**	M 41.1	M 46.4
5 ECTS	3 ECTS	5 ECTS	Composition and properties of raw materials for bakery, pasta and confectionery industries (in English)	Theoretical foundations of bakery, pasta and confectionery industries	5 ECTS	Technology of flour products for special purposes	Business planning
exam	**exam**	**exam**	M 25.3	M 31.2	M 37	M 41.2	M 46.5
			Raw materials in fermentation production (in English)	Theoretical foundations of fermentation and winemaking	Elevator industry technology	Technology of alcoholic beverage production	Web technologies
			M 25.4	2 lec., 2 lab.	M 37.1	2 lec., 3 lab.	2 lec.,1prac.
M 6	M 13	M 20	Fundamentals of Accounting (in English)	5 ECTS	Technology of products of increased nutritional value	6 ECTS	5 ECTS
Inorganic and Organic Chemistry	Analytical Chemistry	Microbiology (in English)	M 25.5	**exam**	M 37.2	**exam**	**exam**
1 lec., 2 lab.	1 lec., 2 lab.	1 lec., 2 lab.	Fundamentals of Economics (in English)	M 32	Ethyl alcohol technology	M 42	M 47
5 ECTS	5 ECTS	5 ECTS	M 25.6	Technology of processing industries	2 lec.,3 lab.	Planning activities at grain processing enterprises (in a second language)	Writing and defend of the thesis
exam	**exam**	**exam**	Introduction to digital technologies(in English)	2 lec., 2 prac.	7 ECTS	M 42.1	8 ECTS
			2 lec., 1 prac.	6 ECTS	**exam**	Planning activities for bakery, pasta and confectionery enterprises (in a second language)	**defense of theses**
			5 ECTS	**exam**	M 38	M 42.2	

M 7	M 14		**exam**	M 33	Milling technology	Planning of activities at the enterprises of the fermentation industry (in the second language)	
Mathematics I	Physics			Grain drying and storage technology	M 38.1	M 42.3	
1 lec., 1 prac.	1 lec., 1 prac., 1 lab.			M 33.1	Technology of bakery production	Taxes and taxation (in a second language)	
3 ECTS	5 ECTS		M 26.1	Technology of pasta production	M 38.2	M 42.4	
exam	**exam**		Processing and storage of crop products	M 33.2	Technology of brewing production	Business Basics(in a second language)	
			M 26.2	Non-alcoholic production technology	2 lec., 3 lab.	M 42.5	
			Food additives in the technology of bakery, pasta and confectionery industries	2 lec., 2 lab.	8 ECTS	Data mining (in a second language)	
			M 26.3	6 ECTS	**exam**	1 lec.,2 prac.	
			Malting technology	**exam**		5 ECTS	
			2 lec., 2 lab.			**exam**	
			6 ECTS			M 43	
			exam			Technochemical control and quality management at grain processing enterprises	

						M 43.1	
						Technochemical control and quality management at bakery, pasta and confectionery enterprises	
			M 27			M 43.2	
			Educational practice			Technochemical control and quality management at fermentation enterprises and wine-making	
			2 ECTS			1 lec., 2 lab.	
			Report protection			5 ECTS	
						exam	
∑5 lec.+4 lab.+10 prac.=19ч/нед	∑4 lec.+4 lab.+11 prac.=19ч/нед	∑9 lec.+5 lab.+8 prac.=22ч/нед	∑10 lec.+4 lab.+7 prac.=21ч/нед	∑12 lec.+7 lab.+7 пр.=26ч/нед	∑7 lec.+5 lab.+3 пр.=15ч/нед	∑8 lec.+8 lab.+3 пр.=19ч/нед	∑6 lec.+3 prac.=9ч/нед
6 exam., 1 d/c	6 exam., 1 d/c	6 exam., 1 d/c	6 exam., 1d/c, 1 practice report	6 exam.	4 exam., 1 practice report	5 exam.	3 exam., 1 practice report
30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS
Component of choice 0 ECTS	Component of choice 0 ECTS	Component of choice 0 ECTS	Component of choice 11 ECTS	Component of choice 14 ECTS	Component of choice 20 ECTS	Component of choice 30 ECTS	Component of choice 5 ECTS
0%	0,00%	0,00%	-36,66%	-46,66%	-66,66%	-100%	-17%

According to the self-assessment report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Technology and Design of Light Industry Products:

Competencies	Symbol	Learning outcomes	Module name
General cultural	LO1	Demonstrates knowledge in the field of social - humanitarian, forming a personality with a broad outlook and culture of thinking	World viewing
			Module of social-political knowledge
	LO 2	Able to communicate in Kazakh, Russian, foreign languages to solve problems of interpersonal and intercultural interaction	Communication
	LO3	Demonstrates skills in handling modern technology, uses information and digital technologies in the field of professional activity	Communication Minor – Development of digital competencies

Competencies	Symbol	Learning outcomes	Module name
	LO4	Applies to professional activities the knowledge of the basics of economics, entrepreneurship, law, anti-corruption culture, features of the interaction of nature and society to ensure life	Module of economic, legal and environmental knowledge (Fundamentals of economics and entrepreneurship, fundamentals of law and anti-corruption culture, ecology and life safety)
General vocationa;	LO5	Applies the basic laws of natural sciences, methods of mathematical analysis and modeling to solving professional problems in clothing industry	Natural sciences
			Engineering
	LO6	Demonstrates knowledge of physical and chemical methods for solving applied problems in the field of chemical technology of textile and leather clothing	Chemical
	LO7	Performs, independently, setting and solving coloristic tasks, transforms and stylizes forms into decorative compositions	Composite
Vocational	LO8	Conducts an analysis of the state and dynamics of the quality indicators of materials, light industry products and the typology of figures using scientific research methods	Scientific
	LO9	Applies knowledge of scientific research methods and academic writing in professional activities in the clothing industry, collects and interprets information to form judgments, adhering to the principles of a culture of academic honesty, scientific ethics	
	LO10	Manages the provision of life safety, labor protection standards at light industry enterprises and environmental cleanliness of production	Learning-production
	LO11	Able to conduct professional activities using classical and innovative technologies in the design and manufacture of sewing, knitwear, fur, leather clothing, shoes, accessories and leather goods	Design

Competencies	Symbol	Learning outcomes	Module name
	LO12	Develops project documentation taking into account utilitarian-technical, artistic-aesthetic, technological, economic parameters, carries out author's control over the compliance of the design project of the product and promotion of products on the market	Productive-technological
	LO13	Manages technological processes for the production of garments, leather clothing, footwear, accessories and leather goods for various purposes;	Design-technological
	LO 14	Effectively operates various types of modern technological equipment and instruments at light industry enterprises in accordance with safety requirements	Technological
	LO15	Applies knowledge of digital manufacturing systems to the design and manufacture of garments, products, leather clothing, shoes, accessories and leather goods from traditional and non-traditional materials	Automation design
	LO16	Applies skills to the management, organization and planning of assortment, quality of services, defect and controls the quality of manufactured products of enterprises	Economical Module of final attestation Minor – Taxes and taxation

The following **curriculum** is presented:

1 semester	**2 semester**	**3 semester**	**4 semester**	**5 semester**	**6 semester**	**7 semester**	**8 semester**
M 1	M 8	M 16	M 23	M 29.1	M 35	M 40	M 46
History of Kazakhstan	Information and communication technologies	Module of economic, legal and environmental knowledge (Basics of economics, entrepreneurship and law, ecology and life safety)	Philosophy	Basics of designing men's products	Enterprise economy	Basics of research studies	Labor protection in light industry
2 lec., 1 prac.	1 lec., 1 prac., 1 lab.	3 lec., 3 prac.	2 lec., 1 prac.	M 29.2	1 lec., 2 prac.	1 lec., 2 prac.	1lec., 1prac.
5 ECTS	5 ECTS	5 ECTS	5 ECTS	Introduction to Digital Technology	5 ECTS	5 ECTS	3 ECTS
exam	**exam**	**exam**	**exam**	M 29.3	**exam**	**exam**	**exam**
				Accounting Basics			
				1lec., 2 лаб.			
				5 ECTS			
				exam			
M 2	M 9	M 17	M 24	M 30.1	M 36.1	M 41.1	M 47.1
Kazakh (Russian) language	Kazakh (Russian) language	Physical culture	Module of socio-political knowledge (Psychology. Culturology. Sociology and political science)	Materials for clothes and confectioning	Electrical engeneering and electrical equipment	Designing of digital sewing enterprises	Automation of technological processes of the industry
3 prac.	3 prac.	2 prac.	4 lec., 4 prac.	M 30.2	M 36.2	M 41.2	M 47.2
5 ECTS	5 ECTS	2 ECTS	8 ECTS	Materials for leather and fur products	Protection and security of data in the digital environment	Technology for decorating clothes and accessories	Automated control systems
exam	**exam**	**d/c**	**exam**	1 lec., 2 prac.	M 36.3	1 lec., 2 lab.	1 lec., 2 prac.

				5 ECTS	Financial Accounting	5 ECTS	5 ECTS
				exam	1 lec., 2 prac.	**exam**	**exam**
					5 ECTS		
					exam		
M 3	M 10	M 18	M 25	M 31.1	M 37.1	M 42.1	M 48.1
Foreign language	Foreign language	Materials science of products of light industry	Физическая культура	Metrology, standardization and certification	Design of preparatory cutting production	Clothing hygiene	CAD technologist of sewing enterprises
3 prac.	3 prac.	1lec., 2 lab.	2 prac.	M 31.2	M 37.2	M 42.2	M 48.2
5 ECTS	5 ECTS	5 ECTS	2 ECTS	Web technology	Costume draping	Footwear hygiene	Designing garments in CAD
exam	**exam**	**exam**	**d/c**	M 31.3	M 37.3	1lec., 2 prac.	M 48.3
				Taxes and taxation	Design of acccesories from leather and fur	5 ECTS	Designing leather and fur products in CAD
				1 lec., 2 prac.	1 lec., 2 lab.	**exam**	1 lec., 4 lab.
				5 ECTS	5 ECTS		7 ECTS
				exam	**exam**		**exam**
M 4	M 11	M 19	M 26.1	M 32.1	M 38.1	M 43.1	M 49
Physical culture	Physical culture	Basics of applied anthropology	Basics of garment technology	Technological equipment of sewing production	Fabric preparation and cutting technology	Organization and planning of production	Externship practice
2 prac.	2 prac.	1 lec., 2 prac.	M 26.2	M 32.2	M 38.2	M 43.2	8 ECTS
2 ECTS	2 ECTS	5 ECTS	Basics of technology of cutting leather and fur	Technological equipment of leather and fur production	Costume composition	Data mining	**Report protection**
d/c	**d/c**	**exam**	1lec., 2 lab.	1 lec., 2 prac.	M 38.3	M 43.3	M 50

			5 ECTS	5 ECTS	Technology of clothing from leather and fur	1 C: Accounting - 8.2	Writing and defend of the thesis
			exam	**exam**	1 lec., 2 l ab.	1 lec., 2 prac.	8 ECTS
					5 ECTS	5 ECTS	**Defense of the thesis**
					exam	**exam**	
M 5	M 12	M 20	M 27.1	M 33	M 39.1	M 44.1	
Phisics	Mathematics	Theoretical and applied mechanics	Basics of designing women's products	Clothing manufacturing technology	Computer modeling of clothes	Design of the technological process of sewing workshop	
1 lec., 1 prac.,1 lab.	1 lec., 2 prac.	1 lec., 1 prac.	M 27.2	1 lec., 2 lab.	M 39.2	M 44.2	
5 ECTS	5 ECTS	3 ECTS	Basics of designing leather and fur products	5 ECTS	Clothing design	Construction of products from various materials	
exam	**exam**	**exam**	1 lec., 2 lab.	**exam**	M 39.3	M 44.3	
			5 ECTS		Design of leather and fur products	Shoe design	
			exam		1 lec., 2 lab.	1 lec., 2 lab.	
					5 ECTS	5 ECTS	
					exam	**exam**	
M 6	M 13	M 21.1	M 28	M 34.1	M 39	M 45.1	
Chemistry	History of costume and fashion	Drawing and basics of composition	Work practice	Constructive modeling of garments	Work practice	Design and technological preparation of sewing production	
1 lec., 2 lab.	1 lec., 1 prac.	M 21.2	5 ECTS	M 34.2	5 ECTS	M 45.2	
5 ECTS	3 ECTS	Special drawing	**Report protection**	Constructive modeling of products from leather and fur	**Report protection**	Design and technological preparation of products from leather and fur	

exam	**exam**	1 lec., 2 lab.		1 lec., 2 lab.		1 lec., 2 lab.	
		5 ECTS		5 ECTS		5 ECTS	
		exam		**exam**		**exam**	
M 7.1	M 14	M 22.1					
Engineering graphics	Color science and colouristics	Physics and chemistry of fiber-forming polymers					
M 7.2	1 lec., 1 lab.	M 22.2					
Engineering and computer graphics	3 ECTS	Chemistry and technology of fiber-forming polymers					
1 lec., 1 prac.	**exam**	M 22.3					
3 ECTS		Basics of chemistry of high-molecular connections					
exam		2 lec., 1 lab.					
		5 ECTS					
		exam					
	M 15						
	Educational practice						
	2 ECTS						
	Report protection						
30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS
Component of elective 3 ECTS -10%	Component of elective 0 ECTS 0%	Component of elective 10 ECTS -33,33%	Component of elective 10 ECTS -33,33%	Component of elective 25 ECTS -83,33%	Component of elective 20 ECTS -66,67%	Component of elective 25 ECTS -83,33%	Component of elective 11 ECTS -37%

According to the self-assessment report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Technology and Design of Textile Materials:

Competencies	Symbols	Learning outcomes	Module name
General cultural	LO1	Demonstrates knowledge of the history of modern Kazakhstan and philosophy as a special form of knowledge of the world. Demonstrates knowledge of trends in the social development of society and socio-ethical values based on social norms, traditions, customs and focuses on them in various social situations and in professional activities.	World viewing
			Module of social-political knowledge
	LO2	Explains the meaning, content and development trends of information and communication technologies. Able to communicate in Kazakh, Russian, foreign languages to solve problems of interpersonal and intercultural interaction.	Communication
	LO3	Uses modern techniques, information and digital technologies	Communication Minor –Digital technologies
	LO4	Demonstrates general knowledge of economics, law, features of ensuring the safety of life, of the interaction of nature and society	Module of economic-legal and ecological knowledge
Vocational	**LO5**	Applies the methods of mathematical analysis and the laws of physics to the successful study of profile disciplines.	Physics-mathematics
		Applies knowledge of engineering disciplines, the laws of engineering and computer graphics to the design and execution of design documentation.	Engineering
		Appies the laws of mechanics and processes of textile production to the successful study of profile disciplines	Applied mechanics and processes automation
	LO6	Demonstrates the knowledge of theoretical basics of chemistry	Chemical

Competencies	Symbols	Learning outcomes	Module name
		Demonstrates knowledge of chemical technology of fibrous materials, physical and colloidal chemistry, chemistry of textile auxiliaries and dyes.	Fundamentals of chemical technology of fiber materials
	LO7	Effectively operates various types of technological equipment in the textile industry in accordance with safety requirements.	Mechanical
		Applies the requirements of the legislation to safety and labor protection in production and fire and explosion hazards in textile enterprises. Demonstrates knowledge of the types of textile industry enterprises, the organization of the enterprise and its structural subdivisions.	Learning-practical
	LO8	Applies knowledge of economics and entrepreneurship to business organization and professional activities.	Economical
		Demonstrates knowledge of the basics of bookkeeping and financial accounting.	Minor – Account and Taxation at light industry enterprises
		Ensures the production of competitive knitwear. It uses various methods of processing fibers of plant, animal and chemical origin. Applies methods for the manufacture of fabrics and non-woven materials. Carries out the choice of technological modes in giving functional properties to textile materials. Demonstrates skills in the production of textile materials, the operation of technological equipment of textile industry enterprises	Technological

Competencies	Symbols	Learning outcomes	Module name
		Applies the main compositions of the knitted fabric ornament, methods of placing ornaments on canvases and models.	Basics of textile materials art design
	LO9	Carries out quality control of produced textile materials for compliance with the requirements of regulatory documents.	Quality and safety of textile materials
	LO10	Participates in the design, reconstruction and equipping of textile enterprises.	Project
	LO11	Uses scientific knowledge to improve the efficiency of textile production and solve practical problems	Scientific
	LO12	Demonstrates skills in organizing work at a textile industry enterprise. Completion and successful defense of a thesis, diploma project or passing a comprehensive exam.	Module of final attestation

The following **curriculum** is presented:

1 semester	2 semester	3 semester	4 semester	5 semester	6 semester	7 semester	8 semester
M 1	M 8	M 15	M 22	M 28	M 34.1	M 40.1	M 46
History of Kazakhstan	Information communication technology	Physical and colloid chemestry (in second language)	Philosophy	Metrology, standardization and certification of textile materials (in English)	Bases of designing and art modeling of knitted goods	Organization and planning of production	Labor safety in the textile industry
2 lec., 1 prac.	1 lec., 1 prac., 1 lab.	1 lec., 1 prac., 1 lab.	2 lec., 1 prac.	1 lec., 2 prac.	M 34.1	M 40.2	1 lec., 2 prac.
5 ECTS	5 ECTS	5 ECTS	5 ECTS	5 ECTS	Technology of coloring textile materials	Data mining	5 ECTS
exam	**exam**	**exam**	**exam**	**exam**	M 34.1	M 40.3	**exam**
					Technology of fabric	1 C: Accounting - 8.2	
					1 lec., 2 lab.	1 lec., 2 prac.	
					5 ECTS	5 ECTS	
					exam	**exam**	
M 2	M 9	M 16	M 23	M 29	M 35.1	M 41.1	M 47.1
Foreign language	Foreign language	Automation of technological processes in industry	Psychology. Culturology. Sociology and Political Science	Physical and chemical basics of processes of furnish textile materials (in second language)	Technology of knitting production	Technology of non-woven	Design of spinning and weaving enterprises
3 prac.	3 prac.	1 lec., 1 prac., 1 lab.	4 lec., 4 prac.	1 lec., 2 lab.	M 35.2	M 41.2	M 47.2
5 ECTS	5 ECTS	4 ECTS	8 ECTS	5 ECTS	Introduction in nanjtechnology	Technology of dry cleaning of textiles	Designing of knitting enterprises
exam	**exam**	**exam**	**exam**	**exam**	M 35.3	M 41.3	M 47.3
					Designing of the structure of textile materials	Technology of hardware spinning of wool	Designing of dyeing and finishing enterprises
					1 lec., 2 lab.	1 lec., 2 prac.	3 prac.
					5 ECTS	5 ECTS	5 ECTS

					exam	**exam**	**exam**
M 3	M 10	M 17	M 24.1	M 30	M 36.1	M 42.1	M 48.1
The Kazakh (Russian) language	The Kazakh (Russian) language	Textile material science	Commodity science of light industry products	Design of a suit	Methods of production of piece knitwear	Designing the structure of patterned and combined knitted weaves	Optimization of technological processes for the production of knitwear
3 prac.	3 prac.	1 lec., 3 lab.	M 24.2	2 prac.	M 36.2	M 42.2	M 48.2
5 ECTS	5 ECTS	6 ECTS	Introduction to Digital Technology	2 ECTS	Technology of finishing knitwear	Technology of final finishing of textile materials with use of water-soluble polymers	Experiment planning
exam	**exam**	**exam**	M 24.3	**exam**	M 36.3	M 42.3	M 48.3
			Accounting Basics		Technology of spinning bast fibers	Designing of cotton technology	Methods for processing measurement results
			1 lec., 2 lab.		M 36.4	1 lec., 2 lab.	1 lec., 2 prac.
			5 ECTS		Web technology	5 ECTS	5 ECTS
			exam		M 36.5	**exam**	**exam**
					Taxes and taxation		
					1 lec., 2 lab.		
					5 ECTS		
					exam		
M 4	M 11	M 18	M 25	M 31.1	M 37.1	M 43.1	M 49
Engineering and computer graphics	Module of economic, legal and environmental knowledge (Basics of economics, entrepreneurship and law, ecology and life safety)	Theoretical and applied mechanics (in second language)	Physics and chemistry of fiber polymers	Composition knitted picture	Methods and means of researches of technological processes (in English)	Designing of knitwear with CAD	Externship practice
1 lec., 1 prac., 1 lab.	1 lec., 2 prac.	1 lec., 1 prac., 1 lab.	1 lec., 2 lab.	M 31.2	M 37.2	M 43.2	8 ECTS

4 ECTS	5 ECTS	4 ECTS	5 ECTS	The history of textile ornament	Methods of research in textile chemistry (in English)	Technological calculations in chemical technology of textile materials	**Report protection**
exam	**exam**	**exam**	**exam**	M 31.3	M 37.3	M 43.3	
				Composition of weaving picture	Ways of identification of textile materials (in English)	Software of engineering tasks	
				M 31.4	1 lec., 2 lab.	3 prac.	
				Threats and risks of information security	5 ECTS	5 ECTS	
				M 31.5	**exam**	**exam**	
				Financial Accounting			
				1 lec., 2 lab.			
				5 ECTS			
				exam			
M 5	M 12	M 19.1	M 26	M 32	M 38.1	M 44.1	
Chemistry	Mathematical analysis	Processes of production of natural and chemical fibers (in English)	Physical culture	Machinery and equipment for the textile industry (in English)	Process equipment of color-finishing manufacture	Designing of technological processes in the industry	
1 lec., 2 lab.	1 lec., 2 prac.	M 19.2	2 prac.	1 lec., 2 prac.	M 38.2	M 44.2	
5 ECTS	5 ECTS	Bases of technology of chemical fibers (in English)	2 ECTS	5 ECTS	Processing equipment and processes of sewing and knitted production	Painting of textile materials	
exam	**exam**	M 19.3	**d/c**	**exam**	M 38.3	M 44.3	
		Technology of preprocessing of textile raw materials (in English)			Processing equipment and processes of spinning and weaver's production	Structure and design of fabrics	
		1 lec., 2 lab.			1 lec., 2 prac.	1 lec., 2 prac.	
		5 ECTS			5 ECTS	5 ECTS	
		exam			**exam**	**exam**	

M 6	M 13	M 20	M 27	M 33	M 39	M 45.1	
Phisics	Physical culture	Electrical engineering and electric equipment (in second language)	Work practice	Technology of textile industries	Work practice	Means for measuring the parameters of spinning and weaving products	
1 lec., 1 prac., 1 lab.	2 prac.	1 lec., 1 prac., 1 lab.	5 ECTS	2 lec., 1 prac., 2 lab.	5 ECTS	M 45.2	
4 ECTS	2 ECTS	4 ECTS	**Report protection**	8 ECTS	**Report protection**	Safety basics of textile materials	
exam	**d/c**	**exam**		**exam**		M 45.3	
						Computer modeling of structure of knitted interlacings	
						1 lec., 2 prac.	
						5 ECTS	
						exam	
M 7	M 14	M 21					
Physical culture	Educational practice	Physical culture					
2 prac.	3 ECTS	2 prac.					
2 ECTS	**Report protection**	2 ECTS					
d/c		**d/c**					
∑4 lec.+4 lab.+11 prac.=19 hour/week	∑3 lec.+1 lab.+13 prac.=17 hour/week	∑6 lec.+9 lab.+6 prac.=21 hour/week	∑8 lec.+4 lab.+7 prac.=19 hour/week	∑6 lec.+6 lab.+7 prac.=19 hour/week	∑5 lec.+8 lab.+2 prac.=15 hour/week	∑5 lec.+2 lab.+11 prac.=18 hour/week	∑2 lec.+0 lab.+7 prac.=9 hour/week
6 exam., 1 d/c	5 exam., 1 d/c, 1 practice report	6 exam., 1 d/c	4 exam., 1 d/c, 1 practice report	6 exam.	5 exam., 1 practice report	6 exam.	3 exam., 1 practice report
30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS	30 ECTS

Component of choice 0 ECTS	Component of choice 0 ECTS	Component of choice 22 ECTS	Component of choice 5 ECTS	Component of choice 22 ECTS	Component of choice 25 ECTS	Component of choice 30 ECTS	Component of choice 14 ECTS
0%	0%	-71,43%	-20%	-83,33%	100%	-100%	100%