ASIIN Seal

Accreditation Report

Bachelor's Degree Programme
Physics
Physics Education

Master's Degree Programme
Physics
Physics Education

PhD Programme
Physics

Provided by
K. Zhubanov Aktobe Regional University

Version: March 27, 2026

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]
BA 6B05301 Физика	BA 6B05301 Physics	ASIIN	IAAR 20.05.2020- 19.05.2027	13
BA 6B01512 Физика	BA 6B01512 Physics (pedagogical)	ASIIN	IAAR 20.05.2020- 19.05.2027	13
MA 7M01502 Физика	MA 7M01502 Physics (pedagogical)	ASIIN	IAAR 20.05.2020- 19.05.2027	13
MA 7M05301 Физика	MA 7M05301 Physics	ASIIN	IAAR 20.05.2020- 19.05.2027	13
PhD 8D05301 Физика	PhD 8D05301 Physics	ASIIN	IAAR 20.05.2020- 19.05.2027	13
Date of the contract: 01.11.2025 **Submission of the final version of the self-assessment report:** 06.10.2025 **Date of the onsite visit:** 3-4 December 2025 **at:** Aktobe				
Expert panel: Prof. Dr. Rolf Haug, Leibniz Universität Hannover				

[1] ASIIN Seal for degree programmes

[2] TC: Technical Committee for the following subject areas: TC 01 - Mechanical Engineering/Process Engineering; TC 02 - Electrical Engineering/Information Technology; TC 03 - Civil Engineering, Geodesy and Architecture; TC 04 - Informatics/Computer Science; TC 05 - Materials Science, Physical Technologies; TC 06 - Engineering and Management, Economics; TC 07 - Business Informatics/Information Systems; TC 08 - Agriculture, Forestry, Food Sciences, and Landscape Architecture; TC 09 - Chemistry; TC 10 - Life Sciences; TC 11 - Geosciences; TC 12 - Mathematics; TC 13 - Physics; TC 14 - Medicine.

Prof. Dr. Barbara Hahn, Koblenz University of Applied Sciences Prof. Dr. Omashova Gaukhar, M. Auezov South Kazakhstan University Zhuldyz Alibekova, PhD Physics Student, Al-Farabi Kazakh National University	
Representative of the ASIIN headquarter: Dr. Natalia Vega	
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 March 28, 2023 Subject-Specific Criteria of Technical Committee 13 – Physics as of March 20, 2020 ASIIN Additional Criteria for Structured Doctoral Programmes as of June 27, 2025	

B Accreditation Status

Result Overview

The most recent decision for the ASIIN Seal was made by the ASIIN Accreditation Commission on 27.03.2026.

Degree Programmes	ASIIN Seal	Validity
Ba Physics	Accredited with requirements	27.03.2026 – 22.04.2027
Ba Physics Education	Accredited with requirements	27.03.2026 – 22.04.2027
Ma Physics	Accredited with requirements	27.03.2026 – 22.04.2027
Ma Physics Education	Accredited with requirements	27.03.2026 – 22.04.2027
PhD Physics	Accredited with requirements	27.03.2026 – 22.04.2027

Fulfilment of the Accreditation Criteria

ASIIN General Criteria / Subject-Specific Criteria	Ba Physics	Ba Physics Education	Ma Physics	Ma Physics Education	PhD
1 Degree programme: Concept, Content & Implementation					
1.1 Objectives and learning outcomes (intended qualification profile)	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
1.2 Title of the degree programme	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
1.3 Curriculum	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
1.4 Admission requirements	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
1.5 Workload and credits	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
1.6 Didactics and teaching methodology	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled

ASIIN General Criteria / Subject-Specific Criteria	Ba Physics	Ba Physics Education	Ma Physics	Ma Physics Education	PhD
2 Exams: System, Concept and Organisation					
2 Exams: System, Concept and Organisation	**Not fulfilled** Requirement A3	**Not fulfilled** Requirement A3	Fulfilled	Fulfilled	Fulfilled
3 Resources					
3.1 Staff and staff development	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
3.2 Student support and student services	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
3.2 Funds and equipment	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
4 Transparency and Documentation					
4.1 Module descriptions	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
4.2 Diploma and Diploma Supplement	**Not fulfilled** Requirement A1	**Not fulfilled** Requirement A1	**Not fulfilled** Requirement A1	**Not fulfilled** Requirement A1	**Not fulfilled** Requirement A1
4.3 Relevant rules	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled

ASIIN General Criteria / Subject-Specific Criteria	Ba Physics	Ba Physics Education	Ma Physics	Ma Physics Education	PhD
5 Quality Management: Quality Assessment and Development					
5 Quality Management: Quality Assessment and Development	**Not fulfilled** Requirement A2	**Not fulfilled** Requirement A2	**Not fulfilled** Requirement A2	**Not fulfilled** Requirement A2	**Not fulfilled** Requirement A2
Additional Criteria for Structured Doctoral Programmes					
D 1 Research	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
D 2 Duration and Credits	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
D 3 Soft Skills and Mobility	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
D 4 Supervision and Assessment	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
D 5 Infrastructure	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
D 6 Funding	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
D 7 Quality Assurance	**Not fulfilled** Requirement A2	**Not fulfilled** Requirement A2	**Not fulfilled** Requirement A2	**Not fulfilled** Requirement A2	**Not fulfilled** Requirement A2

Requirements

Requirements

For all programmes

A 1. (ASIIN 4.2) Ensure that the Diploma Supplement includes the learning outcomes and statistical data about the student's GPA relative to the cohort as set forth in the ECTS Users' Guide.

A 2. (ASIIN 5) Ensure that students are informed about the evaluation results.

For the Bachelor's programmes

A 3. (ASIIN 2) Ensure that the programme includes a mandatory final thesis or project demonstrating the student's ability to independently undertake an academic task at an appropriate level (EQF 6).

Accreditation History

The programmes have not been previously accredited by ASIIN.

C Characteristics of the Degree Programmes

a) Name	Final degree (original/ English translation)	b) Areas of Specialization	c) Corres-ponding level of the EQF[3]	d) Mode of Study	e) Double/ Joint Degree	f) Dura-tion	g) Credit points/u nit	h) Intake rhythm & First time of offer
BA Physics	Bachelor of Natural Sciences	1. Applied Mathematics 2. Theoretical and Experimental Physics 3. Environmental Science 4. Data Analysis and Modeling 5. Scientific Research Methods 6. Renewable Energy and Sustainable Development	6	Full time	-	8 Semest er	240 ECTS	2019
BA Physics (pedagogical)	Bachelor of Education	1. Physics Teaching Methods 2. General and Theoretical Physics 3. Laboratory Practicum and Experimental Skills 4. Educational Technology in Physics 5. Curriculum and Assessment Design 6. Inclusive and STEM Education	6	Full time	-	8 Semest er	240 ECTS	2019

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

a) Name	Final degree (original/ English translation)	b) Areas of Specialization	c) Corres-ponding level of the EQF[3]	d) Mode of Study	e) Double/ Joint Degree	f) Dura-tion	g) Credit points/u nit	h) Intake rhythm & First time of offer
MA Physics (pedagogical)	Master of Education	1. Advanced Physics Education Methods 2. Modern Problems in Theoretical and Experimental Physics 3. Digital Technologies in Science Education 4. Research Methodology in Physics 5. STEM and Innovative Pedagogical Approaches 6. Curriculum Development and Educational Assessment	7	Full time	-	4 semest ers	120 ECTS	2019
MA Physics	Master of Natural Sciences	1. Advanced Theoretical and Applied Physics 2. Physics Teaching Strategies in Higher Education 3. Educational Research in Physics 4. Integration of ICT in Physics Education 5. Development of Educational	7	Full time	-	4 semest ers	120 ECTS	2019
PhD Physics	Doctor of Philosophy		8	Full time	-	6 semest ers	180 ECTS	2019

Introduction

K. Zhubanov Aktobe Regional University (URSU) is a public higher education institution located in the city of Aktobe, Republic of Kazakhstan. The origins of the University trace back to 1935 with the opening of a higher education teacher training institution in Aktobe. The contemporary institution was formally established in 1966 as the Aktobe Pedagogical

Institute, which subsequently underwent a series of reorganizations and name changes, becoming K. Zhubanov Aktobe Regional University. It has developed into a multidisciplinary regional university providing education at the bachelor's, master's, and doctoral levels.

Currently, the university offers more than 100 educational programmes at the bachelor's, master's and doctoral levels. More than 14,000 students study full-time and part-time at all levels of academic training.

The Faculty of Physics and Mathematics includes specialized departments that provide instruction and research in mathematics, physics, and informatics. The educational process is delivered by academic staff with relevant scientific qualifications and teaching experience.

Summary

The expert panel highlights that the university demonstrates a constructive and forward-looking approach to programme development and quality assurance. The experts noted strong and committed teaching, encouraging progress in research, and an engaged and enthusiastic student body. Students expressed high satisfaction with their instructors, and the academic environment is further supported by impressive laboratory facilities that provide an adequate foundation for both teaching and learning. At the institutional level, broad support mechanisms for students and staff were considered effective and well-established.

At the same time, the evaluation identified several areas that require further improvement in order to meet international accreditation standards. Specifically, the introduction of a mandatory bachelor's thesis for all students is necessary and must be reflected through revised study regulations. In addition, Diploma supplements must also be updated to include programme-specific learning outcomes. The panel further recommends increasing opportunities for students and faculty to strengthen their English communication skills as part of the university's broader internationalisation efforts.

For the Bachelor's degree programme Physics the institution has presented the following profile in the self-assessment report:

"BA Physics-6B05301 provides solid training in classical and modern physics, experimental techniques, mathematical modeling, and ICT tools for careers in research or industry."

For the Bachelor's degree programme Physics (pedagogical) the institution has presented the following profile in the self-assessment report:

“BA Physics-6B01512 (pedagogical) emphasizes student-centered pedagogy, STEM integration, inclusive education, and digital literacy for innovative school teaching.”

“The objective of the BA Physics - 6B05301 is aimed at training specialists capable of solving current problems in the field of fundamental and applied physics, including interdisciplinary areas such as physics of materials, nanotechnology and computational modeling.”

“The objective of the BA Physics – 6B01512 (Pedagogical) program is to train a new generation of physics teachers with strong subject knowledge in physics and mathematics, combined with innovative pedagogical skills that meet the demands of 21st-century education”.

For the Master’s degree programme Physics the institution has presented the following profile in the self-assessment report:

“MA Physics-7M05301 offers in-depth scientific knowledge, research methods, and hands-on training in modeling and instrumentation.”

For the Master’s degree programme Physics (pedagogical) the institution has presented the following profile in the self-assessment report:

“MA Physics-7M01502 (pedagogical) develops advanced methodological, teaching, and research skills for leadership in education.”

“The educational program Ma Physics-7M01502 (pedagogical) is aimed at training masters of pedagogical sciences who are able to integrate modern achievements of physical science with innovative teaching methods. The program objectives reflect the needs of the national and international educational space, correspond to levels 7 of the NQF of the Republic of Kazakhstan and EQF, and are also focused on the development of professional and research competencies necessary for teaching in universities, colleges and schools”.

“The goal of the educational program MA Physics-7M05301 is to train highly qualified and competitive specialists with fundamental knowledge in the field of theoretical, experimental and applied physics, who are proficient in modern methods of scientific research, who are able to solve complex problems in an interdisciplinary scientific and professional environment, and who can continue their education at the PhD level.”

For the Doctoral programme in Physics the institution has presented the following profile in the self-assessment report:

“PhD Physics-8D05301 is focused on advanced theoretical and applied research, scientific contribution, and academic publishing.”

“The goal of the PhD Physics - 8D05301 is to train highly qualified scientific and scientific-pedagogical personnel capable of conducting independent fundamental and applied research, solving problems facing physical science and education, as well as forming new knowledge and developing educational trajectories in the field of physics and related sciences.”

D Expert Report for the ASIIN Seal

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 (SAR)
- Objective-Module Matrix for each programme
- Modular Educational programmes
- Modules description of each programme
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:

The objectives and learning outcomes of the programmes under review are formally documented in the Modular Educational Programme (MEP) documents and publicly accessible at the faculty's website. The university emphasize that the programmes are designed to prepare highly qualified professionals in accordance with national educational standards and international academic practices. The programmes align with the State Educational Standards of the Republic of Kazakhstan, Dublin Descriptors, and the European Qualifications Framework (EQF), ensuring consistency in learning outcomes and graduate competences.

The university provides an overview of the relationship between ILOS and ASIIN SSC to demonstrate that the objectives align with the specified exemplary learning outcomes in the relevant SSC. Furthermore, the module descriptions of each programme under review details the learning outcomes of each module, which outline the knowledge, skills and competencies that will be acquired in the course.

According to the SAR, the BA Physics - 6B05301 course equips students with the skills that are in demand in research institutes, laboratories, higher and secondary specialised educational institutions, high-tech enterprises, and digitalisation sectors. Graduates of this programme possess a robust foundation in both physical and mathematical sciences,

coupled with the capacity for critical thinking, effective collaboration in interdisciplinary teams, and the adept execution of scientific research utilising contemporary digital and experimental technologies. Graduates are eligible to pursue employment in research institutes, laboratories and centres specialising in applied physics, as well as in high-tech enterprises, educational organisations (e.g. universities and colleges) and industries that utilise physical methods of analysis and measurement.

The programme BA Physics – 6B01512 (Pedagogical) has a clearly defined pedagogical profile, with a focus on the application of modern teaching methodologies to prepare graduates who are proficient both in subject content and in implementing progressive educational approaches. The professional field of graduates encompasses roles such as physics teacher in schools and colleges, technical and vocational education institutions, as well as methodologist advanced training centres and methodological offices within education departments.

The aim of the Ma Physics-7M01502 (pedagogical) programme is the training of masters of pedagogical sciences, who are able to integrate modern achievements of physical science with innovative teaching methods. Graduates are eligible to undertake teaching, methodological, scientific and managerial activities in educational organisations of various levels. They are skilled in modern scientific research methods, and are capable of solving complex problems in an interdisciplinary scientific and professional environment. Thereafter, they have the option to pursue further education at the doctoral level. Potential roles encompass research fellow, research engineer, university teacher, specialist in applied physics, and project engineer in research institutes, laboratories, and production.

The Ma Physics-7M05301 aims at training highly qualified and competitive specialists with fundamental knowledge in the field of theoretical, experimental and applied physics, who are proficient in modern methods of scientific research, who are able to solve complex problems in an interdisciplinary scientific and professional environment, and who can continue their education at the PhD level.

With regard to the PhD programme in Physics (8D05301), the graduate profile is designed to cultivate researchers and educators who possess systemic scientific thinking, a profound academic ethos, and the capacity to formulate and address contemporary issues in physics. Additionally, the programme fosters the ability to transform knowledge within the scientific and educational milieu. The area of professional activity encompasses fundamental and applied research in the domain of physics and interdisciplinary sciences; higher and postgraduate education, inclusive of teaching and scientific supervision; project, expert and analytical work in research institutes, laboratories, universities and scientific centres.

Regular review and revision of the learning outcomes based on feedback from employers and academic experts during Academic Council meetings ensures their alignment with labour market needs and national qualification standards. Stakeholders are invited to yearly committees that review the relevance of programme objectives and learning outcomes.

The experts observe that the number of students enrolled in the Master's scientific programme is significantly lower than that of the pedagogic programme. The programme coordinators emphasise that the pedagogical direction is more appealing to applicants. The majority of candidates do not express interest in scientific study programmes due to the challenges they entail and the limited employment opportunities. However, the university is seeking to enhance the research environment by acquiring more modern equipment for the laboratories. The objective of this initiative is to motivate students to continue their doctoral programmes and pursue a career in science. Furthermore, the faculty is currently recruiting master's students to undertake project work in the laboratories. Some of the Master's students interviewed have confirmed that this is the case. The students are satisfied with their salaries for work completed on these projects. This approach appears to encourage students to persist in their doctoral studies.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The objectives and learning outcomes of each programme are clearly defined and presented in a concise manner. They are documented and published in a manner that is transparent and accessible to students, lecturers, and interested third parties.

Following a thorough review of the objective-module matrix provided by the university, the experts conclude that the objectives and learning outcomes align with the targeted academic qualification level, are feasible and equivalent to the relevant exemplary learning outcomes specified in the SSC of Physics. Experimental/theoretical work, modelling, interdisciplinary application, communication, and scientific rigor as expected in physics education are included. In the opinion of the experts, the intended competence profile represents the level of qualification according to the European Qualifications Framework. The experts further remark that the relevance of the objectives and learning outcomes are reviewed on a regular basis involving relevant stakeholders and considering the demand on the labour market and the society.

Criterion 1.2 Name of the Degree Programme

Evidence:

- Self-Assessment Report (SAR)

- Graduation Certificates and Diploma Supplement
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
According to the SAR, the names of the programmes under review are consistent with the "Classifier of areas of training personnel with higher and postgraduate education (Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 17, 2018, No. 17565. These correspond to the generally accepted terminology in the field of natural sciences.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The experts consider that the names of the programmes correspond to the intended programme and learning outcomes, as well as to the main language of the course. The experts agree that the teaching and learning content and the competence profile are consistent with the proposed title of the programme.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report (SAR)
- Objective-Module Matrix for each programme
- Modular Educational programmes
- Modules description of each programme
- Regulations Bachelor, master and doctoral studies
- Regulations on International Academic Mobility
- Statistics on Academic Success
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The Bachelor's Programmes under review are full-time, modular and have a duration of eight semesters and a total of 240 ECTS, while the Master's programmes have 120 ECTS; and last two years. Both the Bachelor and Master programmes offer two tracks, a scientific and a pedagogical track.

The key components of the Bachelor's programme in Physics (6B05301) in its scientific track are general physics, theoretical foundations, digital skills, research modules, internships and final projects. The features include an integration of STEM and research-based learning; electives on polymers, nanomaterials, AI in physics, electronics, robotics; lab internships. During the first year, a broad foundation is established, encompassing languages, humanities, and mathematics. Subsequently, students acquire fundamental knowledge in physics and mathematics, culminating in the development of applied and research skills. This transition is facilitated by the integration of practices (educational, industrial, pre-graduation) and elective components.

The Bachelor's programme Physics pedagogical (6B01512) focuses on a pedagogical profile aimed at teaching physics in secondary schools. Its goal is to train the next-generation teachers with CLIL, STEM and digital pedagogy skills. The training programme is designed to ensure a seamless transition from introductory educational content, encompassing humanitarian and communication skills, to fundamental competencies, including pedagogical skills, and finally to specialised physical and methodological disciplines. The content includes the standard and applied physics, pedagogy, inclusion, psychology, school practice and final assessment. In addition, the programme includes include the modules on Physics & STEM, AI in physics, educational mechatronics as well as regular teaching practice in local schools.

The Master's programme Physics (7M05301) is the scientific track and aim to train researchers and applied physics professionals. The curriculum comprises fundamental modules in the first year, which provide general and fundamental knowledge in the philosophy of science, higher education pedagogy, and materials science. These modules are followed by more specialised knowledge in the area of methodology, technology, theoretical physics), and then by modules such as solid-state physics, nanotechnology and practice. The transition is supported by a focus on modern technologies developing the skills of experiment, modelling, and innovation in physics. The core modules include theoretical physics, quantum mechanics, condensed matter, modelling, nanophysics, radiation physics, superconductivity and thesis work. Publication in Scopus/WoS journals, international internships and thesis projects within department research grants are also included.

The objective of the Master's programme Physics (7M01502 – Pedagogical Track) is to develop methodological, analytical and digital teaching competencies. The modules include philosophy of science, pedagogy, academic writing, lesson design, digital labs and educational research. Topics such as content and language integrated learning (CLIL), inclusive education, teaching demonstrations and author-method design are also included in the curriculum.

Both master's programmes include the module "General Education" which comprises subjects such as History and Philosophy of Science, Foreign Language (Professional), Higher Education Pedagogy, Psychology of Management, and Research Organization and Planning. This module serves as an introduction to scientific research while also introducing students to pedagogical activities and their components. Additionally, since Master's students must develop competencies in emerging technologies including artificial intelligence, a module on New Technologies is included in the masters' curriculum. Therefore, the programme includes a module on New Technologies.

The Doctoral programme in Physics (8D05301) has a duration of three years with a workload of 180 ECTS. The aim of this programme is to form researchers capable of making original contributions and demonstrating academic leadership. It includes general research training, academic writing, research methods, nanophysics, radiation defects, AI in physics, luminescence, research practice and dissertation. The features include mandatory publication in Scopus/WoS, mentorship from experienced supervisors with high h-index and also advanced laboratory facilities.

Regarding the internships, the second and third semester of the Masters programme in the scientific path includes a mandatory scientific internship which lasts at least 14 days and takes place in research organizations and/or organizations related to the respective industry or field of activity. This internship is designed to familiarize students with innovative technologies and new types of production.

During the on-site discussions, the programme coordinators explain that the department has established collaborative relationships with numerous educational institutions, including schools and colleges, both within the city and the region, for the pedagogical internship programme. The university offers guidance and assistance to students in their search for internships, helping them to secure valuable experience in their chosen field. The partners from schools and colleges confirm the successful collaboration with the University. The experts also learn that the main place for the scientific major to complete their internship besides research groups at universities is the planetarium in the astronomical direction, given the limited number of industry branches in the region.

The experts note that students are very enthusiastic about their studies and very well supported by the engaged teaching staff. The students interviewed highlight that the electives offered are adequate and allow for individual focal points and personal interests.

The curriculum of the programmes under review is annually reviewed by the academic committee. Proposals for modifying certain courses are made to attain the expected learning outcomes. The courses are updated taken in consideration the relevance of research, promising scientific directions, and ongoing research projects at the university.

Mobility

According to the SAR, students on both scholarship and self-funded bases are eligible for funding for stays abroad in the framework of a faculty's competition. They must be enrolled in the bachelor's programme (second or third year) or the master's programme (second or third semester) at the time of their studies abroad. The university highlights some students' stays abroad, especially in universities in Turkey and Russia as well as some short research visits of Physics PhD students to international institutions in Russia and East-Europe.

During the discussions on-site, the students report on their own experience with stays abroad. They are very satisfied with the information and support provided. The application process is not difficult. The recognition of the credits is also well organized and regulated. The students find very helpful the students' community chat through which they get information about mobility programmes.

In their summative evaluation of the curriculum, the ASIIN expert team comes to the following conclusions:

The curricula of all programmes under review are well structured and enable students to achieve the intended learning outcomes. The electives offered provide opportunities for individual focus. In the module handbooks, learning outcomes for each module are clearly defined. The experts confirm that all programmes under review have a curriculum that is periodically reviewed, revised, and updated in an appropriate manner, with all relevant stakeholders being integrated. Furthermore, K. Zhubanov Aktobe Regional University and the respective programmes under evaluation promote international student mobility and academic exchange through different cooperation and exchange activities and provide adequate support and information for students. Nevertheless, they conclude that the description of the modules in all programmes need to be revised and updated. All mandatory courses need to be included in the module descriptions (see also below **4.1**). In addition, it should be ensured that students are given additional chances to practice English communication and improve English fluency.

Criterion 1.4 Admission Requirements

Evidence:

- Self-Assessment Report (SAR)
- Regulations Bachelor, master and doctoral studies
- Admission regulations
- University's website: https://zhubanov.edu.kz/en/enrollee/category/39/
- Statistics on Admission Rate

- Discussion during the audit

Preliminary assessment and analysis of the experts:
Admission procedures are governed by both state regulations and the university's internal rules and procedures.

According to the university, the admission requirements are structured as follows:

Admission to the educational programmes of Bachelor's degree is based on the results of the Unified National Testing (UNT). Admission to the master's degree programmes is determined by performance in comprehensive entrance exams. Applicants to the scientific and pedagogical master's programme are required to take a CT, which includes an optional English, German or French language test, a test on the profile of groups of educational programmes, and a test to determine readiness for training. For the 7M01502 Physics profile, the subjects are General Physics and the technique of Physics Teaching. For the 7M05301 Mechanics and Molecular Physics profile, the subjects are Mechanics and Molecular Physics.

Admission to the Doctoral programme is dependent on a number of factors, including an interview, the results of a comprehensive examination, the submission of a research paper, and a presentation of a doctoral dissertation proposal.

International students can be admitted to Bachelor's, Master's and Doctoral programmes on a tuition-paying basis only and based on an interview. Educational grants are not available for this purpose.

In the event of a lack of required knowledge, students are offered paid courses to eliminate any academic gaps without lowering the qualification level of the main educational programme.

The university also states that the academic credits obtained from studies at other universities or outside the higher education system as well as academic achievements obtained outside your educational institution are recognized in order to support academic mobility.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The terms of admission are found to be binding and transparent as defined in the admission regulations.

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report (SAR)
- Academic Policy
- Modular Educational programmes
- Modules description of each programme
- Regulations Bachelor, master and doctoral studies
- Statistics on Academic Success
- Regulation on Academic Committee
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:

K. Zhubanov Aktobe Regional University implements a credit system based on students' workload. The total workload includes both contact hours and independent study and comprises following elements:

- Classroom studies: lectures, seminars and practical classes
- Independent work: preparation for classes and exams
- Internship/practical work, research and preparation of a thesis.

The standard workload in the credit system is 30 ECTS per semester (60 ECTS per academic year). This is equivalent to 1,800 hours of work for a Master's student and 1,800 hours of work for a Doctoral student per year. The Bachelor's programmes are worth 240 ECTS, while the Master's programmes are worth 120 ECTS, for a total of 360 ECTS. The Doctoral programme is comprised of 180 ECTS.

According to the university's regulations, 1 ECTS credit corresponds to 30 hours and 1 academic hour lasts 50 minutes. The ratio between classroom and independent work is 1:2 i.e. one hour of classroom work must be followed by 2 hours of independent work. The duration of each semester is 15 weeks. It is also noted that independent work is divided into guided independent work under the supervision of a teacher (SIWT) and fully autonomous independent work (SIW).

The following table, compiled by the University, presents the distribution of credits in the programmes under review:

Name of the EP	Credits ECTS	General Education Disciplines (GED), credits/%	Basic Discipline (BD), credits/%	Profiling (specialization) Disciplines (PD), credits /%	Final certification, credit/%	Research work of a master's/doctoral student, credit/%
6B05301-Physics	240	56 / 23,3	112 /46,7	60 /25	12 / 5	-
6B01512-Physics (IP)	240	56 / 23,3	91/38	85/35,4	8/3,3	-
7M01502-Physics	120	-	35 / 29,2	53 / 44,2	8 /6,6	24 /20
7M05301-Physics	120	-	35 / 29,2	53 / 44,2	8 /6,6	24 /20
8D05301-Physics	180	-	25 / 13,9	20 / 11,1	12 / 6,7	123 /68,3

In order to evaluate whether the assigned credits align appropriately with the actual workload of Bachelor's, Master's and Doctoral students, a variety of means are applied. The process involves conducting student surveys, gathering teacher input, analysing student performance data, and holding discussions at the Academic Quality Council. The curriculum is then adapted as required to guarantee the correct allocation of credits across all modules.

According to the Statistics on Academic Success provided by the university, the majority of students on these programmes graduate within the expected timeframe. Consequently, the numbers of students dropping out and those studying for a long time are very low.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The estimated workload is realistic and transparently anchored, as confirmed by students. The students also report that the workload is not too high and manageable for them.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-Assessment Report (SAR)
- Objective-Module Matrix for each programme
- Modular Educational programmes
- Modules description of each programme

- Regulations Bachelor, master and doctoral studies
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
Several teaching methods are implemented in the programmes under review both digital and in-person formats. The traditional lecture format serves as a foundational element for acquiring theoretical knowledge, while the flipped classroom model is integrated to promote active participation. In practical sessions, a variety of methods are employed, including project-based learning, presentations, literature analysis, discussions, problem-solving, and case studies. Lecturers adapt their didactic methods according to the individual modules and/or contents. All lecture materials, assessments for practical and independent work with instructors, self-study materials, syllabus, and tasks for interim and final assessments are uploaded to the Platonus information system. Other online learning platforms are also used such as MIT OpenCourseWare (OCW) and Coursera.

As stated by the university, independent scientific research work of students in the Bachelor's programmes under review is carried out in the form of preparation for the student scientific research competition. In the module Scientific Research Methods, students are tasked with the independent composition of research papers. Master's and doctoral students conduct scientific work within the framework of their master's thesis and doctoral dissertation. They also write research articles and participate in conferences in accordance with their individual study plans.

The programme's objectives are assessed periodically to guarantee teaching and learning methods are in line with these objectives. Feedback mechanisms play a vital role in the continuous enhancement of instructional strategies, with the primary goal of optimising the overall learning experience.

The experts address the approaches employed by the university and teaching staff in relation to the use of AI. The rectorate clarifies that they are providing training for teaching staff in AI for everyday teaching practice. In addition, a regulatory document is in preparation for the use of AI in research and academic work. The lecturers explain that students may use AI during the classroom and are shown how to use AI appropriately. In examinations, the use of AI is strictly prohibited and is subject to strict control measures.

During the on-site discussions, the student participants express satisfaction with the teaching methods of their courses and with the Platonus system. Furthermore, the opportunity to participate in complimentary lessons of Coursera has been met with

approval. They are confident that their feedback on the courses is also taken into account when the overall learning experience is being optimised.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The experts recognise and value the diversity of teaching methods employed. It is evident that the teaching methods and instruments are suitable for supporting students in achieving the intended learning outcomes. They also welcome the university's commitment to addressing the use of AI, and the fact that students' feedback is taken into account by lecturers to improve teaching methods.

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

The university states that access to Coursera courses is ensured and an English Club project is planned for 2026 to enhance English language proficiency among students. The club will provide a structured and supportive environment for students who wish to practice spoken English and develop effective communication skills. The experts acknowledge these measures. As this is an ongoing process, they decide to keep it as recommendation.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Self-Assessment Report (SAR)
- Objective-Module Matrix for each programme
- Modular Educational programmes
- Modules description of each programme
- Regulations Bachelor, master and doctoral studies
- Regulations On The Ongoing Monitoring Of Academic Performance And
- Interim Assessment (Examination Session) Students
- Regulations on the Procedure for Final Certification of Students
- Regulations on the procedure for transfer and reinstatement of students
- Regulations on the organization and conduct of the summer semester
- Discussion during the audit

Preliminary assessment and analysis of the experts:

Zhubanov University applies a comprehensive and transparent system of knowledge assessment based on credit-based training, encompassing continuous assessment, midterm controls, intermediate certification, and final certification, all regulated by formally approved university regulations. Student performance is evaluated through diverse assessment methods—oral and written exams, tests, projects, presentations, and research papers—aligned with the level and nature of each study programme. Assessment criteria, grading scales, and learning outcomes are communicated to students via syllabi and the university's digital system (Platonus). As further stated in the SAR, examinations are carefully planned, approved, and quality-assured at departmental and faculty levels, with defined rules for exam admission, retakes, absences, and grading (60% continuous assessment, 40% final exam). With this system, the university seeks to ensure fairness, inclusiveness, and alignment with learning outcomes, including accommodations for students with special educational needs, and supports a smooth and well-organized examination process consistent with national standards and ECTS requirements.

The letter-based assessment system is provided in the SAR as follows:

Assessment by the letter system	The digital equivalent	Points (%)	Assessment according to the traditional system
A	4.0	95-100	Excellent
A-	3.67	90-94	
B+	3.33	85-89	Good
B	3.0	80-84	
B-	2.67	75-79	
C+	2.33	70-74	
C	2.0	65-69	Satisfactory
C-	1.67	60-64	
D+	1.33	55-59	
D	1.0	50-54	
FX	0.5	25-49	Unsatisfactory rating
F	0	0-24	

The multi-layered and outcomes-oriented assessment system is aligned with national regulations, ECTS, and international standards such as the CEFR for language disciplines. Student assessment covers continuous, intermediate, and final certification using diverse formats (exams, projects, essays, research work), with clearly defined criteria communicated through syllabi and the Platonus digital platform. Robust procedures ensure fairness and objectivity, including appeal mechanisms, anonymized grading for written exams, independent examiners, and quality monitoring by the Quality Assurance Commission. Academic integrity is a core principle, supported by institutional regulations, membership in the Academic Integrity League, and systematic plagiarism checks via

Turnitin. Final certification at bachelor's, master's, and doctoral levels emphasizes independent research, methodological rigor, and relevance, with external review and state attestation ensuring credibility. Overall, the system ensures consistent achievement of learning outcomes, transparency, inclusiveness, and alignment with programme goals and professional standards.

Should a student miss more than 30% of the total number of classes during an academic period, the course will be deemed incomplete and is not permitted to take the final assessment. In exceptional cases, such as illness (of themselves or of dependants), the death of close relatives (e.g. father, mother, grandmother, grandfather, sibling or child), or spouse, students are entitled to request the Dean's Office to reschedule assessment activities. In the event that a student is sent by the university to an educational or scientific event, the university administration or dean's office will provide rescheduling at their own initiative. Receiving an "FX" grade enables students to retake the final assessment without having to repeat the entire course. Students who receive a final grade of "F" in a discipline, or who are not admitted to the examination session based on the results of the semester rating, may retake the course on a paid basis in subsequent academic or additional periods. A student who disagrees with the result of the final assessment may submit an appeal addressed to the dean of the faculty with a justification no later than the next working day after the exam.

Students are informed in advance about the content areas they are expected to elaborate on, ensuring transparency and preparedness. The choice of examination format lies with the course instructor, allowing alignment with the learning outcomes of each course. The students confirm that examinations are conducted using exam tickets consisting of two theoretical questions and one applied/problem-solving question, alongside multiple-choice tests in some courses. They express a clear preference for the traditional examination format, as it allows them to prepare each topic in depth and reuse this knowledge for further studies. According to the students, teachers explicitly prepare them for the expected exam formats and content. Assessment criteria are communicated to students in advance via the Platonus platform. At the master's level, examinations are predominantly conducted in the form of project-based assessments.

Final Thesis

The "Regulation on the final certification of students" sets out the mandatory framework for organizing and conducting the final attestation of students at the university, in compliance with national legislation and higher education standards of the Republic of Kazakhstan. It defines key terms, assessment principles, and the scope and forms of final certification, which consist of either the defence of a thesis project or the passing of two

comprehensive examinations, accounting for at least 12 academic credits. The Regulation details eligibility criteria for students, procedures for admission to final attestation, and requirements for thesis topics, supervision, plagiarism checking, and assessment. It establishes the structure, composition, and responsibilities of the Attestation Commission, emphasizing external chairmanship, transparency, academic integrity, and alignment with labour market needs. Clear procedures are provided for organizing and conducting thesis defences and comprehensive exams (including written, oral, computer-based, and blank testing formats), with standardized assessment criteria based on a point-rating letter system and ECTS. Provisions ensure accessibility and accommodations for students with special educational needs. The document also regulates decision-making, documentation, appeal limitations, consequences of failure, conditions for re-attestation, and the awarding of degrees and diplomas (including honours and the European Diploma Supplement). Finally, it outlines reporting, archiving, and revision procedures to support continuous quality assurance and improvement of final certification processes.

In the SAR, the university states regarding Bachelor's programmes that a policy was introduced in 2022–2023 "requiring a GPA of 3.5 or higher (or candidacy for an honours diploma) to prepare a diploma project. Students not meeting this threshold take a comprehensive examination in General Physics instead". (p. 47). It is also important to note that the number of students and diploma projects in both programmes is showing a downward trend.

Master's students are required to write and defend a master's thesis as part of their programme of study. There is no alternative graduation pathway available. Generally, all students are encouraged to engage in research activities, including publishing journal articles. A master's thesis is mandatory and provides evidence of the master's student's level of scientific qualification, ability to conduct independent research, capacity to solve specific scientific problems, and knowledge of the most general methods and approaches to solving them. The master's thesis is the culmination of a student's scientific or experimental research work. It presents the results of independent research on a topic that aligns with the current state of science.

During the audit, the experts in particular discuss final (bachelor's) theses. The rectorate and programme coordinators confirm that at the bachelor's level students may choose between completing a final thesis or taking a comprehensive final examination, whereas at the master's level all students are required to write and defend a final thesis. They emphasise that only the most accomplished students are selected to continue with the bachelor's thesis. In accordance with the recently introduced regulations, universities now have the authority to determine which students are eligible to undertake Bachelor's diploma projects. They emphasise that the questions for the final examination are difficult and

complex. During the final meeting, the rector explains that a similar thesis format had previously existed in the form of a group project as an initial step; however, concerns about plagiarism led the university to discontinue this model. At the same time, the university acknowledges that a mandatory final thesis is now necessary and notes that it is currently in a stronger position—both institutionally and procedurally—to introduce and manage this requirement appropriately.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The experts examine samples of examinations and graduation thesis submitted by the programmes under review. According to them, the documents show that the level of the students' academic performance and the content of the modules are adequate for the programmes concerned. The Bachelor's and Master's graduation theses are of a very high standard and show that students are able to work independently. The experts confirm that the students have the opportunity to consult their lecturers about the results of their exams. Furthermore, it is regularly reviewed whether the exams can adequately determine the achievement of the learning objectives, whether the requirements are appropriate to the level of the degree programme, and whether students have sufficient time for preparing and conducting the exams. They also consider that the number and distribution of examinations ensure an appropriate workload and sufficient time for preparation.

However, the experts emphasize that the Bachelor's thesis constitutes an integral component of the respective degree programmes. The thesis demonstrates that students are able to independently address a subject-related problem by applying scientific methods within a defined period of time and thus represents a central examination element required for the award of the academic degree. Therefore, the university has to ensure that a final bachelor's thesis is made mandatory for all bachelor's students.

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

It is stated that, following the approval of the Academic Council, starting from the 2026–2027 academic year, the Bachelor's thesis will be introduced as a mandatory requirement for all undergraduate students of the Faculty of Physics and Mathematics. As this is not implemented yet, the requirement is maintained.

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Self-Assessment Report (SAR)
- Modules description of each programme
- Staff Handbook for each programme
- Regulation on qualification characteristics of faculty members
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The university provides a detailed staff handbook for each programme under review. According to the provided information, the Bachelor's programmes under review consist of 13 teaching staff, while the Master's degree 7M01502 Physics programme has 11 and the 7M05301 Physics programme has nine. The doctoral programme is comprised of a team of five teachers.

As stated in the SAR, teaching staff of undergraduate courses are required to hold at least a master's degree. The allocation of lecture or practical classes is determined by the staff member's rank, which may be lecturer, senior lecturer, associate professor, or full professor. Senior lecturers are responsible for delivering lectures, while junior lecturers typically lead practical sessions and laboratories.

The university offers faculty members a range of opportunities for ongoing professional development, including training courses, workshops and seminars. Several programmes are offered, including those on modern teaching methods, digital education technologies and specialised disciplines. The administration is supportive of faculty initiatives in adopting new educational technologies and methodologies, by providing access to the resources and tools required for skill enhancement.

With regard to staff development, the lecturers report on a number of opportunities for the further development of their professional and didactic skills. All faculty members are required to attend professional development skills courses on a three-year cycle. The lecturers confirm active involvement in the courses. In addition, there are summer and winter schools to develop professional skills. Topics include inclusive teaching methodologies, the use of digital tools, AI and English language courses related to their

area of expertise. They emphasise the valuable scholarship provided by the government Bolashak programme.

The lecturers feel supported by the university in carrying out research activities. It is also possible to get a research semester. The lecturers feel supported by the university in carrying out research activities. There is an option to receive one semester of free tuition for research purposes. In the context of scientific projects, this flexibility can be particularly advantageous. The publication of an article in a scientific journal by a member of the teaching faculty results in the award of credits. With regard to international conferences, the university provides support as well and offers grants for which the lecturers can apply. These cover accommodation and trip.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The teaching staff covers all core content of the programmes adequately. The composition, scientific orientation and qualification of the teaching staff team are suitable for sustaining the degree programme. Furthermore, the quantity of the teaching staff appears to be adequate according to the experts. They highlight that the teaching staff is very engaged. Teaching is of a high standard, and research is showing signs of significant enhancement. The faculty's support mechanisms and opportunities for developing personal skills and the further qualification offers for new teachers are considered to be adequate by the experts. However, the international experience of lecturers should be enhanced. It should be ensured that teaching staff is given additional chances to practice English communication and improve English fluency.

Criterion 3.2 Student Support and Student Services

Evidence:

- Self-Assessment Report (SAR)
- Modules description of each programme
- Staff Handbook for each programme
- Faculty’s website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:

As stated in the SAR, K. Zhubanov Aktobe Regional University offers comprehensive support and advisory services to student.

Upon admission, students benefit from advisory services. Academic advisors assist students in designing an optimal study plan, selecting courses, managing their workload, and setting long-term academic and career objectives. There is also a psychological support service to assist students in managing stress, adapting to new learning environments, and maintaining well-being throughout their studies. The university offers a range of financial support options for students facing financial challenges, including scholarships, financial aid, and grants.

The Department of International Collaboration offers exchange programmes, internships, and international conferences, enabling students to acquire global academic and professional experience. The Alumni Association facilitates continued engagement with graduates, providing career development assistance, access to professional resources, and networking prospects, including postdoctoral and continuing education programmes. Furthermore, annual competitions are held within the framework of Science Month. These include nominations for Best Undergraduate Student, Best Master's Student, and Best Doctoral Student.

To assist graduates in securing employment, the career services department provides job search platforms, career counselling, internship opportunities, and interview preparation. Workshops on communication skills, self-presentation, and job market navigation are regularly held here.

During the discussions on-site, the students interviewed highlight that they are satisfied with their academic advisors. They emphasize that the teaching staff are highly supportive and respond promptly to requests made via email or other channels. They are also open to receiving feedback.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The support system helps students to achieve the intended learning outcomes, completing their studies successfully and without delay. Students are well informed about the services available to them. The system for guidance and mentoring is considered to be adequate by the experts.

Criterion 3.3 Funds and equipment

Evidence:

- Self-Assessment Report (SAR)
- Faculty’s website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The institution's technical resources, which include modern classrooms, laboratories and computer facilities, are subject to regular updates and maintenance. Students also have access to electronic library resources, specialised software (for modelling, calculations and visualisation), multimedia and digital laboratories, as well as interactive learning platforms. All classrooms and laboratories are equipped with high-speed internet.

The library provides informational and reference-bibliographic services. Each month, an Information Bulletin of New Arrivals is published and made available on the library's website. In addition to the textbooks available in both electronic and physical formats in the university library, graduate students utilise research articles from the Scopus and Web of Science databases via the university platform.

As stated in the SAR, in accordance with the strategic development plan of K. Zhubanov Aktobe Regional University, the Department of Physics has been working consistently since 2019 to modernise and establish an educational and laboratory base. In this period, specialised laboratories and dedicated subject rooms were procured and equipped. These facilities were designed to facilitate the practical training of students, thereby ensuring the calibre of the educational process for the Bachelor's degree programme EP 6B05301 – Physics and the Master's programme. The Department of Physics is assigned a set of laboratories that cover the core areas of general physics.

During the audit, the experts visit the facilities, lecture rooms, and the library as well as laboratories for teaching and research e.g. the Mechanics laboratory, the Molecular Physics laboratory, the Electricity and Magnetism laboratory, the Optics, Atomic Physics, Information and Measuring Technology laboratory as well as the Innovation Technology Park and the Scientific Centre “Radiation Physics of Materials”. They had the opportunity to observe the students working in the labs and to hear about their projects from the students themselves. There are also scientific and specialized Laboratories for Master’s and PhD students’ research projects.

The students and teaching staff express their satisfaction with the facilities and labs. The rectorate emphasizes that significant investments have been made in the infrastructure in recent years, positioning K. Zhubanov University as one of the most financially sustainable universities in the country.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The university has sufficient infrastructure and the facilities for students are in good condition. The recent investment in the laboratories has significantly upgraded their

facilities and labs. The laboratories for teaching are highly impressive and are equipped to an exceptional standard, according to the experts.

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

With regard to staff development, the university explains in its statement that more international researchers will be invited, a number of grants are funded with possibilities for international activities, and a Research Methods course is to be established between the University of Minnesota College of Education and Human Development and K.Zhubanov Aktobe Regional University. The experts acknowledge these measures. However, as the experts do not see a well-developed strategy to increase the lecturers' international experience, but rather some good, but isolated, activities, they decide to keep the recommendation.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Module descriptions for each programme

Preliminary assessment and analysis of the experts:

The syllabus for each course is available via "Platonus" information system to all students and teaching staff.

The module descriptions provided by the university for each programme contain, in general, the required information for each module. It includes module title, the person responsible for each module, teaching method(s), credits (ECTS), prerequisites, module objective and learning outcomes, content, examination requirements and form and references.

The students interviewed confirm that they can find all relevant information regarding their modules in the Platonus information system.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The experts observe that some compulsory modules and electives may not be fully reflected in the module descriptions. Furthermore, some information appears to be

missing or inaccurate, for instance, the responsible person for the module is sometimes not specified and the module content is not concise. It was therefore concluded that the module descriptions need to be revised, adjusted and updated, particularly for the bachelor's and master's scientific programme (7M05301 – Physics). In addition, the module handbook for the PhD programme needs to be reviewed. It is essential that all mandatory courses are included in the module descriptions, as well as the final thesis, electives and internships.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Samples of Diploma Certificates for each programme
- Samples of Diploma Supplement for each programme
- Samples of Transcript of records for each programme

Preliminary assessment and analysis of the experts:
Shortly after graduation, a diploma certificate and transcript of records are issued in three languages (Kazakh, Russian and English). An official Diploma supplement, signed and sealed by the University, is issued in English by the Student Services Centre or the Registrar's Office. The Diploma supplement is also available in the SMART ARSU mobile app and the IPE “Univer”.

The university provides samples of these documents for each programme.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The Diploma Supplement needs to contain the learning outcomes of the respective programme. The diploma supplements of the programmes under review do not include data on the GPA distribution of graduates in the same cohort. This information should be included in the Diploma Supplement to ensure fair transfer and recognition of grades for mobile students.

Criterion 4.3 Relevant Rules

Evidence:

- Self-Assessment Report (SAR)
- Academic Policy
- Regulations Bachelor, master and doctoral studies
- Academic Integrity Code for students, teachers and employees

- Website regulations: https://zhubanov.edu.kz/en/education/category/21/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The University Academic Policy contains the rights and responsibilities of K. Zhubanov University (ARU). The document outlines the procedures for developing modular educational programmes (MEPs), the catalogue of elective modules (CEMs), registration for academic modules (disciplines), ongoing monitoring and intermediate and final assessments, the organisation of all types of internships, the evaluation of student knowledge, the rules for student transfers, reinstatements and expulsions, and the organisation and conduct of the summer semester, among other things.

The academic integrity code for students and university's staff includes rules and principles that promote personal integrity in teaching and assessment, particularly, regarding plagiarism and cheating as well as falsification and bribery.

The students interviewed confirm that they can find all relevant information on the website.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:
The rights and duties of both the university and the students are clearly defined and binding. All rules and regulations are published on the university's website and hence available to all stakeholders.

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

Updated module descriptions for each study programmes are provided by the university. Following a thorough revision, the experts are satisfied with the updated module descriptions and consider the requirement fulfilled.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report (SAR)

- Regulations Quality Assurance
- Samples Surveys and results
- University's strategic development plan
- University's website: https://zhubanov.edu.kz/en/education/category/31/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
K. Zhubanov Aktobe Regional University confirms that both external and internal quality assurance measures are in place and are carried out periodically.

The Department for Academic Quality Enhancement is responsible for coordinating quality assurance processes at the university level. The "Commission of Quality", overseen by the Department for Academic Quality Enhancement, is a collegial body whose activities are aimed at improving the academic performance of the faculty. It develops recommendations for decision-making to enhance the quality of educational services and obtains objective information about the state of education quality, trends in its development, and the factors influencing its level. The Commission maintains close working relationships with academic committees, curriculum and teaching councils, and student collegial bodies of the faculties.

As outlined by the University, its internal quality assessment system covers a broad spectrum of areas, including the evaluation of student preparedness, the conditions for implementing the educational process, the effectiveness of the digital learning environment, programme content, faculty performance and resource availability. Mechanisms that gather feedback from students, employers and faculty members have been shown to be particularly effective. The involvement of students in the quality assurance processes of their respective degree programmes is an active and ongoing commitment.

Students' and graduates' satisfaction surveys are carried out. The results of these are published and available for everyone. In addition, student representatives at the bachelor's, master's, and doctoral levels are engaged in the Quality Assurance Commission and the Academic Committee. This ensures direct communication of the results of quality assessments to students and the consideration of their opinions in the development and adjustment of educational programmes.

An annual internal audit is conducted across all areas of activity and all structural units at the University. In addition, the importance of successfully completing Specialized Accreditation through the Independent Agency for Accreditation and Rating of the Republic of Kazakhstan is stressed. This accreditation is a key indicator of the alignment of its

programmes with current academic and industry standards. Furthermore, the university participates in national rankings of the programmes to reflect the competitiveness of its programmes.

With regard to the course's surveys on teaching, the lecturers state that they consider the students' feedback to improve their teaching. Students appreciate the option of offering free comments at the end of the survey. Nevertheless, it remains unclear whether they receive feedback on the results of the teaching surveys. The most of students are not aware of such measures. However, they are confident that their suggestions are being given full consideration. This is evidenced by the implementation of several key measures, including the renovation of facilities, the modernisation of laboratories and the introduction of Scopus access. Additionally, they have provided complimentary access to Coursera lessons, emphasising their commitment to continuous learning and development. Furthermore, they emphasise that there are direct channels for providing feedback to teachers, who are always available and receptive to such input. If direct communication is not desired, there are alternative options available for addressing issues and seeking assistance. Furthermore, there are tablets available to provide suggestions, criticism or to report any problems with teachers.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The experts acknowledge the comprehensive quality management system developed by the university and faculty. They confirm that responsibilities and mechanisms are clearly defined and binding, and that students actively participate in the quality assurance process. Nevertheless, from the discussion with students, the experts learn that students of all programmes under review do not receive any feedback about the results of the teaching evaluation. From the perspective of the experts, it is essential to inform students about survey results and to close the feedback loop in this regard.

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

According to the university’s statement, first steps for implementing transparent feedback such as seminars have been initiated. As a second and strategically important step, the University is planning to integrate the survey and feedback system into the institutional mobile application SmartARSU. As this an ongoing process and these measures are not yet implemented, the experts keep this requirement.

E Additional Criteria for Structured Doctoral Programmes

Criterion D 1 Research

Evidence:

- Self-Assessment Report (SAR)
- Objective-Module Matrix for each programme
- Modular Educational programmes
- Modules description of each programme
- Regulations Bachelor, master and doctoral studies
- Regulation on the doctoral dissertation
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Sample of dissertations
- Discussion during the audit

Preliminary assessment and analysis of the experts:
Regarding objectives and learning outcomes of all programmes under review see above **1.1** and below **Appendix**.

The Doctoral programme in Physics includes professional development modules, with the majority of credits allocated to research activities and dissertation writing. Doctoral research work, including the writing of the dissertation, accounts for 123 ECTS, with research credits distributed across all six semesters. Aim of the programme is to form researchers capable of making original contributions and demonstrating academic leadership. It includes general research training, academic writing, research methods, nanophysics, radiation defects, AI in physics, luminescence, research practice and dissertation.

The university states that doctoral students of the Physics programme are actively engaged in research projects funded by the Ministry of Science and Higher Education of the Republic of Kazakhstan. A list of these projects is provided. PhD students demonstrate a high level of scientific activity by regularly publishing the results of their research in peer-reviewed journals that are indexed in international databases. To date, approximately 40 co-authored scientific articles have been published in journals indexed in Scopus and Web of

Science (Clarivate Analytics). Approximately 30 articles have been published in journals that have been recommended by the Committee for Quality Assurance in the Field of Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan. In addition, seven utility model patents have been obtained within the framework of applied research. In addition, doctoral students are encouraged to participate in international and national scientific conferences, symposia and seminars.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

PhD students find the programme flexible and helpful in carrying out their research projects. In addition, they feel very well supported in writing papers and publishing them in recognised journals. During the on-site visit, the experts can review some samples of dissertations defended in the faculty. Based on that, the experts believe that the focus of the programme enables doctoral candidates to broaden their skills and network for their research activities. In addition, the experts observe that lecturers encourage PhD students to publish in international journals and that the university provides good conditions and support for PhD's research projects. The experts acknowledge the good level and high motivation of the PhD students.

Criterion D 2 Duration and Credits

Evidence:

- Self-Assessment Report (SAR)
- Regulations Bachelor, master and doctoral studies
- Modular Educational programmes
- Modules description of each programme
- Statistics on Academic Success
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The duration of the doctoral programme in Physics is three years, and the workload is 180 ECTS.

As explained in the SAR, during the first and second semesters, the number of doctoral research credits is reduced because the emphasis is on theoretical studies. For instance, in the first semester, the research workload is equivalent to 15 ECTS, or 450 hours in total. On average, doctoral students dedicate approximately 30 hours per week to research

activities. In the second semester, the expected time commitment is 20 hours per week. This increases to 60 hours in the third semester, 40 hours in the fourth, 60 hours in the fifth, and 36 hours per week in the sixth.

An essential element of the doctoral programme is the research internship, which is valued at 10 ECTS. Therefore, the total research-related workload is comprised of 133 ECTS. The final attestation (i.e. the dissertation defence) accounts for 12 ECTS, teaching practice for 10 ECTS, and theoretical training for 25 ECTS.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The structured doctoral programme in Physics operate within an appropriate time duration. The ratio between the length of the doctoral programme and the proportion of time dedicated to research is appropriate, with research constituting a predominantly significant component.

Criterion D 3 Soft Skills and Mobility

Evidence:

- Self-Assessment Report (SAR)
- Objective-Module Matrix for each programme
- Modular Educational programmes
- Modules description of each programme
- Regulations Bachelor, master and doctoral studies
- Regulations on International Academic Mobility
- Statistics on Academic Success
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The university states that, additional to developing research competencies, soft skills are fostered by the doctoral programmes such as critical thinking and analytical skills, communication skills through writing scientific articles, presenting at conferences, and engaging with the research community. Time management and self-organisation are also key competencies that are developed through independent planning and execution of research activities. Leadership and teamwork abilities are improved through teaching practice, mentoring undergraduate students, and participating in research projects.

In order to promote academic mobility, the programme encourages and supports the PhD students to participate in international conferences, seminars, workshops and summer schools. Completion of an international research internship is a mandatory component of the curriculum, typically undertaken during the second or third year of study. Doctoral students may be eligible for state-funded scholarships and can participate in funding competitions for international internships, publication activities and research projects. The university provides a list of these stays abroad which includes institutions in Russia, Poland and Estonia with which the university collaborates.

The students interviewed express satisfaction with the support provided by the university and the faculty for mobility. Some of them have already undertaken research stays abroad, which have been financed in some cases by external grants and in others by the university.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

K. Zhubanov Aktobe Regional University promotes international student mobility and academic exchange through different cooperation and activities and support for doctoral students. In addition, the institution offers a wide range of opportunities for the personal and professional development of doctoral students.

Criterion D 4 Supervision and Assessment

Evidence:

- Self-Assessment Report (SAR)
- Regulations Bachelor, master and doctoral studies
- Regulation on the doctoral dissertation
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Results from surveys and evaluations
- Samples of dissertations
- Discussion during the audit

Preliminary assessment and analysis of the experts:

The responsibilities of the supervisors and doctoral candidates are clearly outlined in the regulation on master's and doctoral studies. The PhD students' supervisor provides comprehensive support, including helping to define the research topic, develop the methodology, critically analyse the results, select peer-reviewed journals, and interact with external experts. The supervisor also plays a key role in helping doctoral students to

establish connections within academic networks, while also providing ongoing support and monitoring their progress.

The supervision structure includes regular meetings between the doctoral student and the supervisor where schedule for the research project, progress reports and current results as well as the preparation of joint publications are discussed. The supervisor is also responsible for liaising with the international consultant and establishing the timeline and duration of the research internship. During the internship, which must last at least one month, the doctoral student will travel to the consultant's university and prepare articles, conduct experiments, analyse data and test research results. The doctoral student's research activities and progress reports are evaluated each semester by the supervisor.

Before submission for dissertation defence, the dissertation is sent for review to two experts with subsequent recommendation for defence by the participants of the extended meeting composed by at least two-thirds of the department members, the reviewers, and representatives from related departments or structural units of the HEI and other organisations. Afterwards, a dissertation council for the defence is chosen by the university's rector which consists of no more than seven members. The council appoints two official reviewers who must have at least five publications in the student's research area in qualifying journals. The defence of the dissertation is public.

The PhD candidates emphasize that the supervision is very well organised. A key benefit of this programme is the presence of both domestic and international supervisors. The opportunity to undertake an internship at another institution represents a highly positive aspect of the PhD in Physics at K. Zhubanov Aktobe Regional University.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The supervisors are in close contact and work together with the doctoral candidates in their research projects and students feel well supervised and supported. Assessment rules seem to be clearly formulated and binding.

Criterion D 5 Infrastructure

Evidence:

- Self-Assessment Report (SAR)
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
Additional to the teaching laboratories that cover the core areas of general physics, the Department of Physics is assigned a set of scientific and specialized laboratories to support scientific research of doctoral students. See above Criterion **3.3**.

The university highlights the scientific centre "Radiation Physics of Materials" which is equipped with specialised systems and analytical instruments that enable cutting-edge interdisciplinary experiments at the intersection of solid-state physics, radiation physics, materials science, and nanotechnology. This centre is well-equipped to support the successful execution of PhD dissertations.

Students also have access to electronic library resources, specialised software (for modelling, calculations and visualisation), multimedia and digital laboratories, as well as interactive learning platforms. All classrooms and laboratories are equipped with high-speed internet, thereby facilitating the effective digitalisation of the educational process.

The Innovation Technology Park has also several laboratories equipped with modern analytical, vacuum, spectral, and mechanical instrumentation, enabling experiments at a high scientific and technical level.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The infrastructure and equipment of the research labs is found adequate to carry out appropriately the research projects of the doctoral candidates of the Physics PhD programme.

Criterion D 6 Funding

Evidence:

- Self-Assessment Report (SAR)
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Discussion during the audit

Preliminary assessment and analysis of the experts:
As stated in the SAR, the PhD candidates actively participate in grant-funded research projects supported by the Ministry of Science and Higher Education of the Republic of Kazakhstan. These grants enable the sustainability of the programme including the purchase of equipment, payment for publications in Scopus and Web of Science journals, as well as funding for participation in international conferences and research internships.

The doctoral candidates present at the on-site visit confirm that all are state scholarship holders and are supported by grant-funded research projects or by the university for attending international conferences or publications. In addition, the research internship abroad is also covered by these grants.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The university and state grants provide sufficient financial support for doctoral candidates and that the doctoral programme under review has adequate and sustainable funding.

Criterion D 7 Quality Assurance

Evidence:

- Self-Assessment Report (SAR)
- Regulations Bachelor, master and doctoral studies
- Regulation on the doctoral dissertation´
- Academic Integrity Code for students, teachers and employees
- Website regulations: https://zhubanov.edu.kz/en/education/category/21/
- Faculty's website: https://zhubanov.edu.kz/en/fmf/category/58/
- Sample of dissertations
- Results from surveys and evaluations
- Discussion during the audit

Preliminary assessment and analysis of the experts:
With regard to internal quality assurance tools see above Criterion **5**.

The rights and duties of doctoral candidates are set out in the regulation on doctoral studies and in the academic policy of the university.

The institution is committed to upholding the principles of good scientific practice, as outlined in the transparent guidelines concerning doctoral dissertations and the academic integrity code. These guidelines address instances of plagiarism, falsification, and other forms of misconduct. All scientific publications and analytical reviews undergo plagiarism checks using the TURNITIN LLC automated system, in accordance with the university's regulations on plagiarism prevention.

In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:

The doctoral programme in Physics is subject to periodical internal quality assurance which includes all stakeholders. However, as mentioned above in **5**, the feedback loops need to be closed.

In addition, the experts are of the opinion that rules of good scientific practice are followed and the rights and duties of the doctoral candidates as well as relevant organizational arrangements are transparently anchored and available for all stakeholders.

F Additional Documents

Before preparing their final assessment, the panel ask that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report:

E 1. Updated module descriptions.

G Comment of the Higher Education Institution (25.02.2026)

The following quotes the comment of the institution:

STATEMENT

K. Zhubanov Aktobe Regional University

K. Zhubanov Aktobe Regional University (hereinafter – the University) received the draft Assessment Report on February 16, 2026. The University confirms that the report contains no inaccuracies in its factual descriptions. All recommendations and areas for improvement outlined in the report were reviewed and addressed by the University following the expert panel's on-site visit.

The University hereby submits the relevant evidence in support of this statement and provides its formal response regarding **Section E: Additional Documents** of the draft report within the accreditation procedure for the five degree programmes:

Before preparing their final assessment, the panel asks that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report:

Criterion 1.3 Curriculum

● The description of the modules in all programmes need to be revised and updated. All mandatory courses need to be included in the module descriptions (see also below 4.1).

● Some compulsory modules and electives may not be fully reflected in the module descriptions. Furthermore, some information appears to be missing or inaccurate, for instance, the responsible person for the module is sometimes not specified and the module content is not concise. It was therefore concluded that the module descriptions need to be revised, adjusted and updated, particularly for the bachelor's and master's scientific programme (7M05301 – Physics). In addition, the module handbook for the PhD programme needs to be reviewed. It is essential that all mandatory courses are included in the module descriptions, as well as the final thesis, electives and internships.

In response to the recommendations, all relevant information has been clarified and aligned to ensure accuracy, completeness, and consistency across the programmes. All mandatory courses – including the final thesis, elective courses, and internships – have been fully incorporated into the revised module descriptions.

The updated module descriptions for all five study programmes are included in the Annex. The revisions ensure:

● completeness of all compulsory and elective modules;

● inclusion of responsible persons for each module;

● alignment of workload calculations with awarded ECTS credits;

● improved clarity and transparency of course content.

Annex:

● Module description of 6B01512 BA – Physics (pedagogical)

● Module description of 6B05301 BA – Physics

● Module description of 7M01502 MA – Physics (pedagogical)

● Module description of 7M05301 MA – Physics

● Module description of 8D05301 PhD – Physics

● It should be ensured that students are given additional chances to practice English communication and improve English fluency.

Coursera courses play a significant role in strengthening students' English language practice. While the university had 900 Coursera licenses in 2025, 1,500 licenses were ordered for 2026. As a result, students already have access to a wide range of international online courses delivered in English starting from the spring semester, with access valid until September 2026. This provides students with extended opportunities to improve their academic English proficiency while gaining knowledge from leading international universities and institutions.

Moreover, to enhance English language proficiency among students of the Faculty of Physics and Mathematics, the implementation of the English Club project is planned for 2026. The club will provide a structured and supportive environment for students who wish to practice spoken English and develop effective communication skills.

All interested students will be invited to participate. Faculty members will also be actively involved in the club's activities to foster an English-speaking academic atmosphere and encourage professional communication in English. A detailed schedule of English Club meetings will be developed and approved. Information about the sessions will be communicated to all students through official university channels. The activities will include discussions, debates, academic presentations, scientific topic-based conversations, and interactive communication formats aimed at improving both general and subject-specific English skills.

Together, these measures ensure systematic support for improving students' English fluency and expanding their ability to participate confidently in international academic and professional environments.

Criterion 2 Exams: System, Concept and Organisation

● The university has to ensure that a final bachelor's thesis is made mandatory for all bachelor's students.

In response to the ASIIN recommendation, the University confirms that amendments will be introduced to the internal regulatory document "Regulation on Final Attestation of Students."

Currently, Clause 4.4 of the Regulation states (https://zhubanov.edu.kz/media/finalattestationregulation):

4.4 When determining applicants for writing and defending a thesis project, the following criteria are taken into account:

● *students with a GPA of at least 3.5;*

● *students who have published articles in collections of materials from methodological, scientific and practical conferences, seminars or in scientific and methodological publications;*

● *authors of Start-up projects that have passed the university examination;*

● *winners of national and international scientific competitions.*

In accordance with the University's academic governance procedures, amendments to Clause 4.4 will be initiated in order to remove the existing eligibility restrictions and to introduce the Bachelor's thesis as a mandatory component of final attestation for all undergraduate students.

As per the University's internal procedure, amendments are initiated by the respective department or faculty and submitted to the Academic Council for formal approval during its annual summer session.

Following the approval of the Academic Council, starting from the 2026–2027 academic year, the Bachelor's thesis will be introduced as a mandatory requirement for all undergraduate students of the Faculty of Physics and Mathematics. Accordingly, the University will ensure that students are provided with full freedom of choice within the framework of the final attestation.

Criterion 3.1 Staff and Development

● The international experience of lecturers should be enhanced. It should be ensured that teaching staff is given additional chances to practice English communication and improve English fluency.

1. The university places strong emphasis on expanding international academic cooperation and increasing the involvement of foreign scholars in teaching activities at the Bachelor's, Master's, and PhD levels. In 2026, the number of invited international researchers has increased compared to 2025, thereby strengthening the international dimension of the educational process and creating additional opportunities for faculty members to practice professional English communication.

Within the framework of academic mobility, the following scholars are scheduled to visit in 2026:

● Yuriy V. Zorenko, Professor, Doctor of Physical and Mathematical Sciences, Head of the Department of Optoelectronic Materials at the Faculty of Physics of Kazimierz Wielki University (Bydgoszcz, Poland), H-index – 20.

He is scheduled to visit in September 2026 to deliver lectures on Condensed Matter Physics for third-year students.

● Marat I. Lerner, Doctor of Technical Sciences, Professor, Head of Laboratory and Chief Researcher at the Institute of Strength Physics and Materials Science SB RAS (Russian Federation).

He is scheduled to deliver lectures from April 6 to April 18, 2026, for fourth-year students enrolled in the educational programs 6B01502 – Physics and 6B05301 – Physics.

Professor Lerner is a well-known scientist in the field of nanotechnology with 47 years of experience in research and higher education. He is the author and co-author of more than 200 scientific publications (including 5 monographs) and 32 patents (10 international patents). His H-index in the Web of Science and Scopus databases is 22.

In accordance with Order No. 79 of the Ministry of Science and Higher Education of the Republic of Kazakhstan dated February 24, 2025, and within the framework of the 2026 program for attracting foreign specialists, the following scholars from the State Key Laboratory of Fire Science of the University of Science and Technology of China are planned to be invited in August 2026 to conduct seminars, carry out joint research and experiments, publish collaborative articles, and prepare joint applications for program-targeted or grant funding:

- Hu Yuan (H-index – 77), https://www.scopus.com/authid/huyuan
- Wang Xin (H-index – 76) https://www.scopus.com/authid/wangxin
- Hou Yan-Bei (H-index – 36), https://www.scopus.com/authid/houyanbei
- Chu Fu-Kai (H-index – 38), https://www.scopus.com/authid/chufukai

2. Another important measure aimed at strengthening academic staff engagement with international experts and further developing their English language proficiency is the active involvement of faculty members in research-oriented activities.

The majority of academic staff involved in the study programmes 7M01502 – Physics, 7M05301 – Physics, 6B05301 – Physics, and 8D05301 – Physics serve as principal investigators or key researchers in grant-funded research projects (the list of the projects and researchers are provided in the Annex).

Within the framework of these grant-funded projects, faculty members regularly participate in international academic activities, including overseas research visits, participation in international conferences, and collaboration with foreign partner institutions. During these engagements, they actively communicate with international colleagues and co-author scientific publications.

Such sustained international research collaboration contributes significantly to strengthening their professional English language proficiency and enhances their ability to operate effectively within the global academic community.

3. Moreover, between the University of Minnesota College of Education and Human Development and K.Zhubanov Aktobe Regional University Research Methods course started from 2026 at the **International Center for the Development of Research Competencies (ICDRC)**. Teacher of the physics Department Kuralai Kudaibergenova is a participant of this intensive course.

Annex:

● Grant Funded Projects of the Faculty

Criterion 5 Quality management: quality assessment and development

● Students of all programmes under review do not receive any feedback about the results of the teaching evaluation. From the perspective of the experts, it is essential to inform students about survey results and to close the feedback loop in this regard.

Following this recommendation, the University implemented an initial transparent feedback dissemination mechanism. The results of the most recent student surveys, as well as the improvement measures undertaken based on these results, were openly presented to students through a structured communication process involving **eight academic mentors** who work directly with students.

Special seminars were organized, during which:

● survey outcomes were presented;

● identified issues were discussed;

● implemented corrective actions were explained;

● planned measures were introduced.

This initiative constituted the first step in establishing a systematic and transparent feedback loop between students and the University (the protocol is provided in the Annex).

As a second and strategically important step, the University is planning to integrate the survey and feedback system into the institutional mobile application SmartARSU. A dedicated Questionnaire section has already been incorporated into the application architecture for this purpose.

The full implementation of this digital feedback mechanism is scheduled for the 2026-2027 academic year. Through the **SmartARSU application**, students will be able to complete surveys directly within the platform. Once survey results are finalized and analyzed, each student will receive an individual notification containing:

● summarized survey results;

● information on measures undertaken based on the findings;

● planned follow-up actions.

The SmartARSU-based questionnaire system has been designed to ensure student anonymity, confidentiality, and data security (the screenshots of the app are provided in the Annex).

Annex:

● FPM Survey Protocol

● FPM Survey Protocal (translation)

● https://drive.google.com/drive/folders/smartarsuscreenshots

● https://www.instagram.com/surveyresults (presentations by mentors)

In addition to the formal recommendations, the Assessment Report also contains further observations and comments that provide valuable guidance for the continued development of the University and its study programmes. The University has carefully reviewed these remarks and identified several areas that may benefit from further enhancement.

In light of the observations outlined in the report, the University has initiated additional measures to address certain aspects highlighted during the evaluation process. Some actions have already been implemented, while others are currently being developed or are in the planning stage.

Accordingly, the University is taking further steps in the following area:

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

● The number of students enrolled in the Master's scientific programme is significantly lower than that of the pedagogic programme. The programme coordinators emphasise that the pedagogical direction is more appealing to applicants. The majority of candidates do not express interest in scientific study programmes due to the challenges they entail and the limited employment opportunities.

To increase enrollment in the Master’s educational program 7M05301 – Physics, the university administration is implementing the following measures:

● Strengthening career guidance and outreach activities for the program 7M05301 – Physics in other regions of Kazakhstan. In Western Kazakhstan, and in neighboring universities, in general, there are no research-oriented educational programs in Physics. For career guidance and attracting prospective master’s students, the following strengths serve as key motivational factors:

● Availability of all three levels of higher education within the research-oriented Physics program: Bachelor's, Master's, and PhD;

● Well-developed scientific infrastructure for conducting research;

● Newly established laboratories in materials science and composite materials, opened in 2026 within the framework of the Center of Academic Excellence project IRN BR24992882, "Development of New Technologies for Processing Industrial Waste to Improve the Environmental Situation in the Region";

● Implementation of seven research projects by the direction of Physics funded by the Committee of Science of the Ministry of Science and Higher Education of the Republic of Kazakhstan.

● Previously, salary bonuses in secondary schools were provided only to holders of a Master's degree in the pedagogical educational program in Physics (7M01502 – Physics). Starting from 2026, the Ministry of Education of the Republic of Kazakhstan is introducing a regulation that also provides salary bonuses for holders of a Master's degree in the research-oriented educational program in Physics (7M05301 – Physics). This initiative will serve as an additional incentive to increase enrollment in the 7M05301 – Physics program. https://adilet.zan.kz/kaz/docs/remunerationsystem

https://adilet.zan.kz/eng/docs/remunerationsystem (translation)"

H Summary: Expert recommendations (04.03.2026)

Taking into account the additional information and the comments given by K. Zhubanov Aktobe Regional University, the experts summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation
Ba Physics	With requirements for one year	30.09.2031
Ba Physics (pedagogical)	With requirements for one year	30.09.2031
Ma Physics	With requirements for one year	30.09.2031
Ma Physics (pedagogical)	With requirements for one year	30.09.2031
PhD Physics	With requirements for one year	30.09.2031

Requirements

For all degree programmes

A 1. (ASIIN 4.2) Ensure that the Diploma Supplement includes the learning outcomes and statistical data about the student's GPA relative to the cohort as set forth in the ECTS Users' Guide.

A 2. (ASIIN 5, D7) Ensure that students are informed about the evaluation results.

For the Bachelor's degree programmes

A 3. (ASIIN 2) Ensure that the programmes include a mandatory Bachelor´s thesis for all students.

Recommendations

E 1. (ASIIN 1.3) It is recommended to provide additional opportunities for students to practice English communication and to enhance their English fluency.

E 2. (ASIIN 3.1) It is recommended to develop a strategy to increase the international experience of the lecturers.

I Comment of the Technical Committee 13 - Physics (13.03.2026)

Assessment and analysis for the award of the ASIIN seal:

The TC members discuss the requirements and follow the experts' assessment without changes.

The Technical Committee 13 – Physics recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation
Ba Physics	With requirements for one year	30.09.2031
Ba Physics Education	With requirements for one year	30.09.2031
Ma Physics	With requirements for one year	30.09.2031
Ma Physics Education	With requirements for one year	30.09.2031
PhD Physics	With requirements for one year	30.09.2031

Requirements

For all degree programmes

A 1. (ASIIN 4.2) Ensure that the Diploma Supplement includes the learning outcomes and statistical data about the student's GPA relative to the cohort as set forth in the ECTS Users' Guide.

A 2. (ASIIN 5, D7) Ensure that students are informed about the evaluation results.

For the Bachelor's degree programmes

A 3. (ASIIN 2) Ensure that the programme includes a mandatory final thesis or project demonstrating the student's ability to independently undertake an academic task at an appropriate level (EQF 6).

Recommendations

For all degree programmes

E 1. (ASIIN 1.3) It is recommended to provide additional opportunities for students to practice English communication and to enhance their English fluency.

E 2. (ASIIN 3.1) It is recommended to develop a strategy to increase the international experience of the lecturers.

J Decision of the Accreditation Commission (27.03.2026)

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

The Accreditation Commission follows the experts' assessment and recommends using the standard formulation for Requirement A3.

The Accreditation Commission decides to award the following seals:

Degree Programme	**ASIIN Seal**	**Maximum duration of accreditation**
Ba Physics	With requirements for one year	30.09.2031
Ba Physics Education	With requirements for one year	30.09.2031
Ma Physics	With requirements for one year	30.09.2031
Ma Physics Education	With requirements for one year	30.09.2031
PhD Physics	With requirements for one year	30.09.2031

Requirements

For all degree programmes

A 1. (ASIIN 4.2) Ensure that the Diploma Supplement includes the learning outcomes and statistical data about the student's GPA relative to the cohort as set forth in the ECTS Users' Guide.

A 2. (ASIIN 5) Ensure that students are informed about the evaluation results.

For the Bachelor's degree programmes

A 3. (ASIIN 2) Ensure that the programme includes a mandatory final thesis or project demonstrating the student's ability to independently undertake an academic task at an appropriate level (EQF 6).

Recommendations

For all degree programmes

E 1. (ASIIN 1.3) It is recommended to provide additional opportunities for students to practice English communication and to enhance their English fluency.

E 2. (ASIIN 3.1) It is recommended to develop a strategy to increase the international experience of the lecturers.

Appendix: Programme Learning Outcomes and Curricula

According to the SAR, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Physics (Scientific path):

"The objective of the BA Physics - 6B05301 is aimed at training specialists capable of solving current problems in the field of fundamental and applied physics, including interdisciplinary areas such as physics of materials, nanotechnology and computational modelling. The goal of the program is to develop in graduates deep theoretical knowledge, experimental skills and analytical abilities necessary for scientific, industrial and innovative activities.

Learning Outcome	Description
LO1	To use basic theoretical knowledge in physics, practical skills and abilities to solve organizational and managerial tasks.
LO2	To substantiate and present the results of work in accordance with the standards adopted by the organization and the ability to choose tools for data processing in the field of physics.
LO3	To know the basic concepts, laws and models of general theoretical physics, the ability to see the applied aspect in solving a scientific problem, competently present and interpret the result.
LO4	To formulate the main results of fundamental and applied research in the field of physics and mathematics as a theory in relation to the phenomenon or law under study.
LO5	To work with modern software, devices and installations, apply acquired research skills; motivate creativity and successful implementation of new ideas in the professional field in the field of physics.
LO6	To use acquired knowledge of physical and mathematical disciplines for the successful mastery of knowledge in the main subjects of training.
LO7	To organize educational and research work and work on academic writing, methodically competently perform a physical experiment.
LO8	To apply mathematical knowledge and methods for solving practice-oriented tasks, analyzing numerical data presented in the form of graphs, diagrams, analyzing statistical information, using mathematical methods in analyzing and synthesizing observable physical processes, facts and phenomena.
LO9	To master independently new knowledge and skills in the field of law, academic integrity, national and spiritual values, management and business.

The following **curriculum** is presented:

Cycle/ component	Discipline code	Name of disciplines	Semester	Academic credit	Number of ECTS credits
1. Module -Language module, 20 academic cr					
ООД ОК	IYa 1101	Foreign language	1,2	10	10
ООД ОК	K (R) Ya 1102	Kazakh (Russian) language	1,2	10	10
2. Module - General education, 22 academic cred					
ООД ОК	SIK 1103	Modern History of Kazakhstan	2	5	5
ООД ОК	IKT 1104	Information and Communication Technologies (in English)	1	5	5
ООД ОК	MSPZ 1105	Module of Social and Political Knowledge	1,2	8	8
ООД ОК	FK (1) 1106	Physical Education	1,2	4	4
3. Module - Higher Mathematics and General Physics-1,					
БД ВК	MA 1201	Mathematical analysis	1	4	4
БД ВК	AG 1202	Algebra and geometry	2	3	3
БД ВК	UR 1203	Ulttyk rakhaniyat	1	5	5
БД ВК	Mech 1204	Mechanics	2	5	5
БД		Educational practice	2	1	1
4.1 Module - Philosophy and Economics, 17 academic					
ООД ОК	Fil 2107	Philosophy	4	5	5
ООД КВ	OPB 2108	Fundamentals of Entrepreneurship and Business	3	5	5
БД		Industrial Practice	4	3	3
ООД ОК	FK (2) 2109	Physical Education	3,4	4	4
4.2 Module - Knowledge of the world and academic integrity, 17					
ООД ОК	Fil 2107	Philosophy	4	5	5
ООД КВ	ACh 2108	Academic Integrity	3	5	5
БД		Industrial Internship	4	3	3
ООД ОК	FK (2) 2109	Physical Education	3,4	4	4
5.1 Module - General Physics -2.19 academic cred					
БД ВК	MF 2205	Molecular Physics	3	5	5
БД ВК	EM 2206	Electricity and magnetism	3	4	4
БД КВ	PR 2207	Physical practice	3	5	5
БД КВ	TM 2208	Theoretical mechanics	4	5	5
5.2 Module - Methods of solving problems of general physics, 19					
БД ВК	MF 2205	Molecular Physics	3	5	5
БД ВК	EM 2206	Electricity and magnetism	3	4	4
БД КВ	MRGZE 2207	Methods for solving boundary problems of electrostatics	3	5	5
БД КВ	KM 2208	Classical mechanics	4	5	5
6.1 Module - Mathematics and Programming, 24 acader					
БД КВ	DIU 2209	Differential and integral equations	3	4	4
БД КВ	MMF 2210	Methods of mathematical physics	4	5	5
БД КВ	Pro 2211	Programming	3	5	5
БД ВК	Elec 2214	Electrical engineering	4	4	4
БД КВ	Opt 2213	Optics	4	6	6
6.2 Module – Mathematical Physics and Programming, 24 ac					
БД КВ	DUChPPP 2209	Partial differential equations of the first order	3	4	4
БД КВ	MFT 2210	Equations of mathematical physics	4	5	5
БД КВ	MRZP 2211	Methods for solving programming problems	3	5	5
БД ВК	Elec 2214	Electrical engineering	4	4	4

БД КВ	KO 2213	Corpuscular optics	4	6	6
7.1 Module - Quantum Physics, 30 academic cred					
БД ВК	AF 3214	Atomic physics	5	5	5
ПД ВК	AP 3301	Academic writing	5	5	5
БД КВ	YaF 3215	Nuclear physics	6	5	5
ПД КВ	ED 3302	Electrodynamics	5	5	5
БД ВК	KM 3216	Quantum mechanics	6	5	5
ПД	PP	Production practice	6	5	5
7.2 Module - Subatomic Physics, 30 academic cre					
БД ВК	AF 3214	Atomic physics	5	5	5
ПД ВК	AP 3301	Academic writing	5	5	5
БД КВ	FAYaECh 3215	Physics of the atomic nucleus and elementary particles	6	5	5
ПД КВ	TSF 3302	Thermodynamics and statistical physics	5	5	5
БД ВК	KM 3216	Quantum mechanics	6	5	5
ПД		Production practice	6	5	5
8.1. Module – Electronics and Astronomy, 30 academi					
БД КВ	ES 3219	Electronics and circuit engineering	5	5	5
ПД КВ	AZ 3304	Astrophysical research	6	5	5
БД КВ	FKS 3220	Condensed matter Physics	5	5	5
ПД ВК	Ast 3305	Astronomy (dual training)	5	5	5
БД КВ	FPD 3221	Physics of semiconductors and dielectrics	6	5	5
ПД ВК	NT 3306	Nanotechnology	6	5	5
8.2 Module - Microelectronics and physical research methods, 3					
БД КВ	ME 3217	Microelectronics	5	5	5
ПД КВ	MAN 3303	Methods of analysis of nanoparticles and nanomaterials	6	5	5
БД КВ	FTT 3218	Solid State Physics	5	5	5
ПД ВК	Ast 3305	Astronomy (dual training)	5	5	5
БД КВ	OPNN 3219	Optics of semiconductor nanostructures and nanotechnology	6	5	5
ПД ВК	NT 3306	Nanotechnology	6	5	5
9.1 Module - Technical Physics, 28 academic cred					
БД КВ	FM 4220	Physical Materials Science	7	3	3
ПД КВ	YaGR 4306	Nuclear gamma resonance	7	5	5
ПД ВК	IIT 4307	Information and measurement technology	7	5	5
БД	PP	Production practice	8	10	10
БД		Pre-graduate practice	8	5	5
9.2 Module – Measuring equipment and methods of physical researc					
БД КВ	FKOS 4220	Physics of space and open systems	7	3	3
ПД КВ	MFI 4306	Methods of physical research	7	5	5
ПД ВК	IIT 4307	Information and measurement technology	7	5	5
БД	PP	Production practice	8	10	10
БД		Pre-graduate practice	8	5	5
10.1 Module - Methods of Applied Physics, 20 academi					
ПД ВК	SMITT 4309	Spectroscopic methods in the study of solids	7	5	5
ПД КВ	FP 4309	Physics of polymers	7	5	5
ПД ВК	RFZPK 4310	Solving physical problems using a computer	7	5	5
ПД КВ	RM 4311	Robotics and mechatronics	7	5	5
10.2 Module - Applied Physics and Radiophysics, 20 acad					
ПД ВК	SMITT 4309	Spectroscopic methods in the study of solids	7	5	5
ПД КВ	IF 4309	History of physics	7	5	5
ПД ВК	RFZPK 4310	Solving physical problems using a computer	7	5	5
ПД КВ	RF 4311	Radiophysics	7	5	5
Final certification					
	IA	Final Assessment		8	12

According to the SAR, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree programme Physics (Pedagogical):

"The objective of the **BA Physics – 6B01512 (Pedagogical)** program is to train a new generation of physics teachers with strong subject knowledge in physics and mathematics, combined with innovative pedagogical skills that meet the demands of 21st-century education. The program, grounded in the Finnish education model, emphasizes student-centered learning, STEM integration, digital literacy, inclusive practices, critical and creative thinking, and a commitment to lifelong learning. It fosters cross-curricular integration, reflective practice, and the application of modern teaching methodologies to prepare graduates who are proficient both in subject content and in implementing progressive educational approaches".

Learning Outcome	Description
LO1	Demonstrate intercultural and communicative competence, apply skills for independent learning and develop professional relationships in pedagogical and social settings. Promote a healthy lifestyle in professional activities.
LO2	Collect and interpret educational and scientific information based on social, ethical and academic considerations. Reflect on one's teaching practice and values to set new pedagogical development goals.
LO3	Apply theoretical knowledge in physics through modern ICT tools for professional growth and improvement of teaching practices.
LO4	Address the psycho-pedagogical aspects of inclusive education, recognize diverse learners' needs and ethically support their well-being.
LO5	Understand and apply fundamental scientific concepts and methods across physics and other disciplines to solve global and local problems.
LO6	Demonstrate awareness of Kazakhstan's historical development and apply academic writing and research skills with integrity.
LO7	Show strong academic and practical knowledge of physics, apply scientific reasoning and understand the role of science in society.
LO8	Conduct experimental and/or theoretical research using modern instruments and information technologies.
LO9	Apply modern methods of analysis and synthesis in physical research. Use mathematical and analytical skills to solve physics problems.
LO10	Conduct integrated STEM-based lessons using CLIL methods for natural science teaching.
LO11	Work in interdisciplinary teams and apply scientific knowledge to address social challenges.
LO12	Understand the principles of school physics curriculum development and use various teaching technologies effectively.

The following **curriculum** for **BA Physics – 6B01512 (Pedagogical)** is presented:

0 Appendix: Programme Learning Outcomes and Curricula

Cycle/component	Code of Disciplines	Name of disciplines	Semester	Academic credit	ECTS
1	2	3	4	5	6
1. Module of historical and philosophical competencies, 10 academic credits					
GED/OK	IK 1101	History of Kazakhstan	2	5	5
GED/OK	Phil 2101	Philosophy	3	5	5
2. Socio-political knowledge module, 8 academic credits					
GED/OK	Soc 2102	Sociology	3	2	2
GED/OK	Psych 2103	Psychology	3	2	2
GED/OK	Kult 2104	Cultural studies	4	2	2
GED/OK	Pol 2105	Political Science	4	2	2
3. Instrumental and communicative module, 32 academic credits					
GED/OK	IYa 1102	Foreign language	1,2	10	10
GED/OK	K(R)Ya 1103	Kazakh (Russian) language	1,2	10	10
GED/OK	IKT 1104	Information and communication technologies	1	5	5
DVO	DKKya	Business communication in Kazakh	6	3	3
BD VK	PIYa 3201	Advanced foreign language	6	4	4
4. Healthy Lifestyle Module, 8 academic credits					
GED/OK	FK 1105	Physical culture	1,2,3,4	8	8
5.1. Module for the formation of interdisciplinary competencies, 9 academic credits					
BD VK	Abai 1206	Abay studies	2	2	2
DVO	NV	National education	2	2	2
GED/KV	OIEB 3102	Fundamentals of Research in Ecology and Safe Living	5	5	5
5.2. Module for the formation of interdisciplinary competencies, 9 academic credits					
BD VK	Abai 1206	Abay studies	2	2	2
DVO	NV	National education	2	2	2
GED/KV	INPAK 3102	Research Skills in Law and Anti-Corruption	5	5	5
5.3. Module for the formation of interdisciplinary competencies, 9 academic credits					
BD VK	Abai 1206	Abay studies	2	2	2
DVO	NV	National education	2	2	2
GED/KV	MIEP 3102	Research Methods in Economics and Entrepreneurship	5	5	5
6. Support for students as individuals, 22 academic credits					
BD VK	PVKO 2206	Psychology, interaction and communication in education	3	5	5
BD VK	NOKTO 2207	The science of education and key learning theories	3	4	4
BD VK	VFOR 1207	Age and physiological features of the development of children	2	3	3
	IOS 3203	Inclusive educational environment	5	4	4
BD KV	PPIO 3204	Teaching planning and individualization of learning	6	4	4
DVO	PP	Introduction to the teaching profession	2	2	2
7. Teaching and Assessment for Learning, 17 academic credits					
BD KV	MTP 2208	Teaching methods and technologies	4	5	5
BD VK	OR 3205	Assessment and development	5	4	4
BD	PP	Pedagogical approaches	6	6	6
BD KV	OMR 4207	Educational mechatronics and robotics	8	4	4
PD KV	Electr 4308	Electronics	8	4	4
12.2. Interdisciplinary interactions, 31 academic credits					
PD KV	ATCh 1310	Algebra and number theory	1	5	5
PD KV	MLDM 2314	Mathematical Logic and discrete Mathematics	2	5	5
PD KV	PK 4305	Cosmology problems	8	3	3
PD KV	KG 2315	Computer graphics	4	5	5
PD KV	Ste 4306	STEAM Physics	7	5	5
PD KV	FOUR 4307	Physics and Knowledge of Sustainable Development	8	4	4
PD KV	OR 4308	Fundamentals of radio electronics	8	4	4
13.1. Theory and technology of teaching physics, 12 academic credits					
BD KV	PRFZ 3212	Practicum in Solving Physics Problems 1	6	4	4
BD KV	PRFZ 4209	Practicum in Solving Physics Problems 2	7	5	5
BD KV	ShFE 3213	Physics Experiment in Schools	6	3	3
13.2. Theory and technology of teaching physics, 12 academic credits					
BD KV	FP 3212	Physics Practicum 1	6	4	4
BD KV	FP 4209	Physics Practicum 2	7	5	5
BD KV	MET 3213	Experimental Techniques in Schools	6	3	3
Final certification					
	IA	Final Assessment	8	12	12

According to the SAR, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Master's degree programme Physics (Pedagogical):

"The educational program **Ma Physics-7M01502 (pedagogical)** is aimed at training masters of pedagogical sciences who are able to integrate modern achievements of physical science with innovative teaching methods. The program objectives reflect the needs of the national and international educational space, correspond to levels 7 of the NQF of the Republic of Kazakhstan and EQF, and are also focused on the development of professional and research competencies necessary for teaching in universities, colleges and schools".

Learning Outcome	Description
LO1	To have fundamental scientific and vocational training in the field of physics, to own modern information technologies, including methods of studying, processing and storage of scientific information.
LO2	To be able to formulate and solve modern scientific and practical problems on physics, to organize and conduct research, experimental and research activities for the chosen direction.
LO3	To apply the gained knowledge at the solution of specific scientific and practical and other physical objectives
LO4	To own the culture of thinking and a public statement; the correct and logical registration of the thoughts in an oral and written form, participation in discussions on professional problems.
LO5	To acquire new knowledge in the field of physics, using modern educational technologies.
LO6	To solve physical problems of research and applied character, to carry out statistical processing of results of an experiment, to carry out mathematical, physical and numerical modeling of properties of objects and processes.
LO7	To know languages in spheres of social and scientific communication; to be capable to continue training and to conduct professional activity in the foreign-language environment.
LO8	To use methods of the social humanities in various spheres of the professional activity.

The following **curriculum** for **Ma Physics-7M01502 (pedagogical)** is presented:

Cycle/ Component	Code of the Discipline	Module Components	Semester	Credit	Number of ECTS Credits
1	*2*	*3*	*4*	*5*	*6*
		Module 1 – General Education, 15 academic credi			
BD UC	HPS 5201	History and philosophy of science	1	3	3
BD UC	FL (P) 5202	Foreign language (professional)	1	3	3
BD UC	PHE 5203	Pedagogy of higher education	1	3	3
BD UC	MP 5204	Management psychology	1	3	3
BD UC	OPSR 5205	Organization and planning of scientific research	1	3	3
		Module 2.1 – Teaching Methodology in the Learning Process, 31 ac			
PD EC	MPTSCSS 5301	Methods of Physics Teaching in Specialized Classes of Secondary School	1	5	5
BD EC	MSCPCBNLT 5206	Methodology for studying the concepts of a physics course based on new learning technologies	1	5	5
BD EC	CPE 5207	Classical physical experiments	2	5	5
		Module 2.2 – Innovative Processes in Education, 31 academic			
PD UC	TMPSHSC 5301	Teaching Methods of Physics in Specialized High School Classes	1	5	5
BD EC	FOMPE 5206	Fundamentals of Organization and Management in Pedagogical Education	1	5	5
BD EC	MPE 5207	Modern Physics Experiments	2	5	5
		Module 3.1 – Information Technologies in Physics Education, 14 ac			
PD UC	ICTSPE 5302	Information and Communication Technologies in School Physics Experiments	2	5	5
PD UC	DCTTSNPP 5303	Development of Critical Thinking Through Solving Non-standard Physics Problems	2	4	4
BD EC	ICRI 5208	Informatization and Computerization in Research Institutes	2	5	5
		Module 3.2 – ICT and Modern Physics, 14 academic cred			
PD UC	ICTSPE 5302	Information and Communication Technologies in School Physics Experiments	2	5	5
PD UC	DCTTSNPP 5303	Development of Critical Thinking Through Solving Non-standard Physics Problems	2	4	4
BD KB	ITE 5208	Information Technologies in Education	2	5	5
		Module 4.1 – Nanotechnologies in Materials Science, 20 academ			
PD UC	PFS 6304	Physical Foundations of Superconductivity	3	5	5
PD EC	PN 6305	Physics of Nanotechnologies	3	5	5
PD EC	MSTSM 6306	Materials Science and Technology of Structural Materials	4	5	5
PD EC	ADLPT 6307	Application of a Digital Laboratory in Physics Teaching	4	5	5
		Module 4.2 – Physics of Condensed Matter, 20 academic cr			
PD UC	PCMCS 6304	Physics of Condensed Matter and Complex Systems	3	5	5
PD EC	STSSP 6305	Special Topics in Solid State Physics	3	5	5
PD EC	MSTSM 6306	Materials Science and Technology of Structural Materials	4	5	5
PD EC	CIMP 6307	Current Issues in Modern Physics	4	5	5
		Module 5 – Practice and Scientific Research, 40 academic c			
BD	TP	Teaching Practice	3	5	5
	SRWMS	Scientific Research Work of a Master's Student	1-4	24	24
PD	RP	Research Internship или Research Practice	4	15	15
	FC	Final Certification	4	12	12

According to the SAR, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Master's degree programme Physics (Scientific):

"The goal of the educational program **MA Physics-7M05301** is to train highly qualified and competitive specialists with fundamental knowledge in the field of theoretical, experimental and applied physics, who are proficient in modern methods of scientific research, who are able to solve complex problems in an interdisciplinary scientific and professional environment, and who can continue their education at the PhD level".

Learning Outcome	Description
LO1	Classifies the methods of social sciences and humanities in various fields of his professional activity.
LO2	Analyzes physical problems of a research and applied nature, performs statistical processing of experimental results, performs mathematical, physical and numerical modeling of properties of objects and processes.
LO3	Demonstrates mastery of the culture of thinking and public speaking; correct and logical formalization of their thoughts in oral and written form, participation in discussions on professional issues.
LO4	Develops an algorithm for acquiring new knowledge in the field of physics using modern educational technologies.
LO5	Speaks languages in the spheres of social and scientific communication; is able to continue training and conduct professional activities in a foreign language environment, creates and presents scientific products in a foreign language.
LO6	Builds a system of acquired knowledge in solving specific scientific, practical and other physical problems.
LO7	Plans fundamental scientific and professional training in the field of physics, owns modern information technologies, including methods of studying, processing and storing scientific information.
LO8	Classifies modern scientific and practical problems in physics, organizes and conducts research, experimental research activities in the chosen direction.
LO9	Has the skills of organizing and managing scientific and innovative projects, planning and forecasting the work of a pedagogical team.

The following **curriculum** for **MA Physics-7M05301** is presented:

Cycle/ Component	Code of the Discipline	Module Components	Semester	Credit	Number of ECTS Credits
1	*2*	*3*	*4*	*5*	*6*
Module 1 – General Education, 15 academic credi					
BD UC	HPS 5201	History and philosophy of science (in Kazakh)	1	3	3
BD UC	FL (P) 5202	Foreign language (professional) (in English)	1	3	3
BD UC	PHE 5203	Pedagogy of higher education (in English)	1	3	3
BD UC	MP 5204	Management psychology	1	3	3
BD UC	OPSR 5205	Organization and planning of scientific research (in English)	1	3	3
Module 2.1 – Corpuscular Optics and Physics of Magnetic Phenomena					
BD EC	Mat 5206	Materials Science (in English)	1	5	5
PD UC	MTPHE 5207	Methods of Teaching Physics in Higher Education (in Kazakh)	1	5	5
PD EC	MCCOS 5301	Methods of Calculating Corpuscular-Optical Systems (in English)	2	4	4
PD EC	FPMP 5302	Fundamental Principles of Modern Physics (in Kazakh)	2	5	5
Module 2.2 – Technologies and Methods, 19 academic					
BD EC	MSTSM 5206	Materials Science and Technology of Structural Materials (in English)	1	5	5
PD UC	MTPHE 5207	Methods of Teaching Physics in Higher Education (in Kazakh)	1	5	5
PD EC	STTP5301	Special Topics in Theoretical Physics (in	2	4	4

		English)			
BD UC	MCEMF 5302	Methods of Calculating Electric and Magnetic Fields (in Kazakh)	2	5	5
		Module 3.1 – New Technologies, 26 academic credi			
BD EC	MSNT 5208	Management of Science and New Technologies	2	5	5
PD EC	METHE 5303	Modern Educational Technologies in Higher Education (in Kazakh)	2	5	5
	SRWMS	Scientific Research Work of a Master's Student	1,2	16	16
		Module 3.2 – Theoretical Foundations of Physics, 26 acader			
BD EC	IGTRQFT 5208	Introduction to General Theory of Relativity and Quantum Field Theory	2	5	5
PD EC	STMMP 5303	Special Topics in Mechanics and Molecular Physics (in Kazakh)	2	5	5
	SRWMS	Scientific Research Work of a Master's Student	1,2	16	16
		Module 4.1 – Solid State Physics and Nanotechnology, 33 acad			
PD UC	LCS 6301	Luminescence of Crystalline Systems (in Kazakh)	4	5	5
PD EC	RSPS 6302	Radiation-Stimulated Processes in Solids (in Kazakh)	3	5	5
PD EC	MSSSP 6303	Mössbauer Spectroscopy in Solid State Physics	4	5	5
PD UC	NME 6304	Nanotechnology Methods and Equipment (in Kazakh)	3	5	5
BD	PP	Pedagogical Practice	3	5	5
	SRWMS	Scientific Research Work of a Master's Student	3,4	8	8
		Module 4.2 – Solid State Research Methods and Spectroscopy, 33			
PD UC	LCS 6301	Luminescence of Crystalline Systems (in Kazakh)	4	5	5
PD EC	PMSSL 6302	Physical Methods for the Study of Solids and Liquids (in Kazakh)	3	5	5
PD EC	FSSICSS	Fine Structure Spectroscopy of Impurity	4	5	5
	6303	Centers in Solid Solutions			
PD UC	NN 6304	Nanosystems and Nanodevices (in Kazakh)	3	5	5
BD	PP	Pedagogical Practice	3	5	5
	SRWMS	Scientific Research Work of a Master's Student	3,4	8	8
		Module 5 – Practice and Scientific Research, 27 academic			
ПД	RP	Research Practice	3,4	19	19
	FC	Final Certification	4	8	8

According to the SAR, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the PhD programme Physics:

"The goal of the **PhD Physics - 8D05301** is to train highly qualified scientific and scientific-pedagogical personnel capable of conducting independent fundamental and applied research, solving problems facing physical science and education, as well as forming new knowledge and developing educational trajectories in the field of physics and related sciences".

Learning Outcome	Description
LO1	Reviews works of a scientific nature, independently writes articles in international peer-reviewed journals, monographs, textbooks, correctly draws up a dissertation.
LO2	Applies the advanced methods and skills put into practice in the field of physics.
LO3	Knows modern methods of obtaining new materials, registers their physical characteristics and makes recommendations for their further use.
LO4	Carries out further theoretical or applied research and development at the high level, making a significant contribution to creation of new approaches and methods of development of physical science.
LO5	Owns modern information technologies, including methods of studying, processing and storing scientific information.
LO6	Shows the presence of the considerable volume of the scientific knowledge acquired in the systematic way and reflecting the current state of physical science, its concrete direction.
LO7	Conducts independent research work according to clearly defined goals and extracts new information from them.
LO8	Evaluates the effectiveness of the experiment and the developed algorithm for solving physical problems of a research and applied nature, the statistical processing of the experimental results, the implementation of mathematical, physical and numerical modeling of the properties of objects and processes.
LO9	Organizes research that can contribute to the development of physical science and deserves publication in scientific journals with a high scientific rating, both nationally and internationally.
LO10	Studies the structure and optical properties of the condensed state, analyzes the absorption, radiation and excitation spectra.

The following **curriculum** for **PhD Physics - 8D05301** is presented:

Cycle/ Component	Code of the Discipline	Module Components	Semester	Credit	Number of ECTS Credits
1	2	3	4	5	6
Module 1.1 Scientific and Theoretical (15 academic credits)					
BD UC	AW 7201	Academic Writing	1	5	5
BD UC	SRM 7202	Scientific Research Methods	1	5	5
BD EC	NN 7203	Nanotechnologies and Nanomaterials	1	5	5
Module 1.2 Scientific and Theoretical 2 (15 academic credits)					
BD UC	AW 7201	Academic Writing	1	5	5
BD UC	SRM 7202	Scientific Research Methods	1	5	5
BD EC	PCM 7203	Polymer Composite Materials	1	5	5
Module 2.1 – Radiation Processes in Solids (20 academic credits)					
PD UC	LRDSAHCCLSR 7302	Luminescence and Radiation Defects in AHC Crystals under Lattice Symmetry Reduction	2	5	5
PD EC	SDM 7303	Scintillation and Dosimetric Materials	2	5	5
BD UC	TP	Teaching Practice	2	10	10
Module 2.2 – Research Methods in Physics (20 academic credits)					
PD EC	MCMPR 7303	Monte Carlo Method in Physical Research	2	5	5
PD UC	VMP 7304	Variational Methods in Physics	2	5	5
BD UC	TP	Teaching Practice	2	10	10
Module 3 – Internship and Research Work (145 academic credits)					
	RW	Research Work	1,2,3,4,5,6	123	123
PD	RI	Research Internship	4	10	10
	FA	Final Assessment	6	12	12