ASIIN Seal & EUR-ACE® Label

Accreditation Report

Bachelor's Degree Programmes
Process Automation Engineering
Information Security
Computer Engineering

Master's Degree Programme
Informatics and Control in Technical Systems
Cybersecurity

Provided by
Baku Higher Oil School

Version: 12 December 2025

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Proseslərin avtomatlaşdırılması mühəndisliyi	Process Automation Engineering	ASIIN, EUR-ACE® Label	/	02
Informasiya təhlükəsizliyi	Information Security	ASIIN, EUR-ACE® Label	/	02, 04, 06
Kompüter mühəndisliyi	Computer Engineering	ASIIN	/	02, 04
Texniki sistemlərdə informatika və idarəetmə	Informatics and Control in Technical Systems	ASIIN, EUR-ACE® Label	/	02, 04
Kibertəhlükəsizlik	Cybersecurity	ASIIN	/	04, 06
Date of the contract: 07.06.2024 **Submission of the final version of the self-assessment report:** 11.03.2025 **Date of the onsite visit:** 02.-03.07.2025 **at:** Baku Higher Oil School				
Expert panel: Prof. Dr. Dieter Baums, Technical University of Applied Sciences Mittelhessen Prof. Dr.-Ing. Burkhart Voß, University of Applied Sciences Jena Prof Dr. Michael Amberg, Friedrich-Alexander University of Erlangen-Nuremberg Seymur Talibov, Khazri TN LLC - N1 Bread Factory				

[1] ASIIN Seal for degree programmes; EUR-ACE® Label: European Label for Engineering Programmes

[2] TC: Technical Committee for the following subject areas: TC 02 - Electrical Engineering/Information Technology; TC 04 - Informatics/Computer Science; TC 06 - Engineering and Management, Economics.

Ilhama Novruzova, ADA University	
Representative of the ASIIN headquarter: Paulina Petracenko	
Responsible decision-making committee: Accreditation Commission for Degree Programmes	
Criteria used: European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of December 7, 2021 Subject-Specific Criteria Technical Committee 02 – Electrical Engineering/Information Technology as of September 23, 2022 Subject-Specific Criteria of Technical Committee 04 – Informatics/Computer Science as of March 29, 2018 Subject-Specific Criteria of Technical Committee 06 – Engineering and Management, Economics as of September 20, 2019	

B Accreditation Status

Result Overview

The most recent decision for the ASIIN Seal was made by the ASIIN Accreditation Commission on 12.12.2025.

Degree Programmes	ASIIN Seal	Validity	EUR-ACE® Label	Validity
Ba Process Automation Engineering	Accredited with requirements	12.12.2025 – 21.07.2027	Accredited with requirements	12.12.2025 – 21.07.2027
Ba Information Security	Accredited with requirements	12.12.2025 – 21.07.2027	Accredited with requirements	12.12.2025 – 21.07.2027
Ba Computer Engineering	Accredited with requirements	12.12.2025 – 21.07.2027	--	--
Ma Informatics and Control in Technical Systems	Accredited with requirements	12.12.2025 – 21.07.2027	Accredited with requirements	12.12.2025 – 21.07.2027
Ma Cybersecurity	Accredited with requirements	12.12.2025 – 21.07.2027	--	--

Fulfilment of the Accreditation Criteria

ASIIN General Criteria / Subject-Specific Criteria	Ba Process Auto-mation Engineer-ing	Ba Information Security	Ba Computer Engineering	Ma Informatics and Control in Technical Systems	Ma Cyber-security
1 Degree programme: Concept, Content & Implementation					
1.1 Objectives and learning out-comes (intended qualification pro-file)	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 methodo-logy	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
2 Exams: System, Concept and Organisation					
2 Exams: System, Concept and Or-ganisation	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled
3 Resources					
3.1 Staff and staff development	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled

ASIIN General Criteria / Subject-Specific Criteria	**Ba Process Auto-mation Engineer-ing**	**Ba Information Security**	**Ba Computer Engineering**	**Ma Informatics and Control in Technical Systems**	**Ma Cyber-security**
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
5 Quality Management: Quality Assessment and Development					
5 Quality Management: Quality Assessment and Development	Fulfilled	Fulfilled	Fulfilled	Fulfilled	Fulfilled

C Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Process Automation Engineering	B.Sc.		6	Full time	/	10 Semester	295 ECTS	Fall semester / 2013
Information Security	B.Sc.		6	Full time	/	10 Semester	294 ECTS	Fall semester / 2019
Computer Engineering	B.Sc.		6	Full time	/	10 Semester	300 ECTS	Fall semester / 2022
Informatics and Control in Technical Systems	M.Sc.		7	Full time	/	4 Semester	120 ECTS	Fall semester / 2018
Cybersecurity	M.Sc.		7	Full time	/	4 Semester	120 ECTS	Fall semester / 2023

Background Information

Baku Higher Oil School (BHOS) was established in 2011 as a public higher education institution within the structure of SOCAR (State Oil Company of the Azerbaijan Republic). Its continuous purpose is to train highly qualified professionals to meet the technical demands of SOCAR and the wider Azerbaijani energy sector.

Initially, BHOS launched its academic activities in cooperation with Heriot-Watt University (United Kingdom), offering dual-degree programmes in Petroleum Engineering, Chemical Engineering, and Process Automation. Since its establishment, the range of academic programmes has expanded. As of now, BHOS offers eight bachelor's and ten master's degree

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

programmes. These programmes are distributed across four departments: Chemical Engineering, Oil and Gas Engineering, Information Technology, and Business Administration. The institution currently enrolls more than 1,700 students.

All academic programmes at BHOS are delivered in English. The stated objective of BHOS is to equip students with competencies that meet international academic and industry standards.

As a subsidiary of SOCAR, BHOS maintains close ties with industry, offering students access to practical training, internships, and employment pathways. The experts recognize this strong connection to the professional sector as one of the institution's core strengths.

According to national university rankings, BHOS is placed among the top 10 higher education institutions in Azerbaijan. Approximately 30% of Azerbaijani students with the highest secondary school graduation scores choose to enrol at BHOS.

Summary of the Experts' Assessment

The experts' review of the five programmes presents an overall highly positive picture. The study programmes are of high quality and incorporate modern, relevant topics. They benefit significantly from BHOS's strong ties to industry, which help ensure that the curricula remain aligned with labour market demands. Numerous internship opportunities across all programmes further reinforce the application of theoretical knowledge and enhance students' employability. Additionally, the foundation year in English plays a key role in developing the high level of language proficiency observed among students — an important asset that supports both academic success and international competitiveness.

The teaching staff are described by students and institutional leaders as highly dedicated, with a strong presence in both academic mentoring and extracurricular activities. One of BHOS' most notable strengths, though, is its well-established and effectively functioning quality assurance system, underlined by a genuinely open and constructive feedback culture. Stakeholder voices are not only heard but actively integrated into institutional decision-making processes.

Despite these many positive aspects, the expert group has identified several areas where improvement is required to fully align with international quality standards. Most notably, the current module documentation should be revised to ensure completeness, accuracy, and consistency. This includes providing clear information on total workload, prerequisites, course content, and intended learning outcomes for all modules. The expert group recommends compiling this information into a coherent module handbook to improve transparency and usability.

Furthermore, the Diploma Supplement has to be revised to comply with ASIIN standards. It is also essential that the results of student surveys are shared systematically with the student body — not only when major issues arise, but as part of an ongoing and transparent quality dialogue.

Beyond the formal requirements, the experts make several recommendations for further enhancement. BHOS is advised to develop a clearer and more systematic mapping of modules to programme learning outcomes (PLOs) to more transparently demonstrate how the curriculum contributes to the achievement of the intended competencies. Efforts should also be made to ensure that truly elective courses are actually offered, for example by opening existing electives across different programmes.

The experts also recommend offering didactic training opportunities for external lecturers, particularly those from industry, and increasing the budget allocation for teaching-related projects and academic exchange activities. Finally, improvements to the Learning Management System (LMS) are encouraged, particularly in terms of student access, real-time visibility of grades, and access both on and off campus.

Study Programme Summaries

For the bachelor's degree programme Process Automation Engineering the institution has presented the following profile on its website:

"The objective of the Ba Process Automation Engineering degree programme is to equip students with the knowledge and skills needed to design, implement, and manage automated systems in various industrial settings.

Learning outcomes:

- Should be familiar with the main technologies, equipment, and devices of process automation, as well as the technical and technological perspectives of the specialization.
- Ability to write programs in a programming language and perform algorithm development.
- Ability to know the theoretical foundations of technical measurement.
- Should understand the basic laws and principles of automatic regulation widely applied in electrical and electronic systems.
- Should be familiar with microprocessor technology.
- Should understand the operating principles, characteristics, parameters, connection schemes, and application areas of electronic devices.

- Should know the logical foundations, technologies, parameters, and operational characteristics of digital integrated microcircuits.
- Should be familiar with the purpose, classification, and working principles of automatic control systems."

For the bachelor's degree programme Information Security the institution has presented the following profile on its website:

"Students of the Information Security study programme should acquire the following learning outcomes:

- Skills in algorithmizing and algorithmic languages.
- Skills in database and information system design.
- Implementation of cryptographic systems, applying encryption algorithms, classical and modern ciphers – cryptographic protocols and electronic signature.
- Ability to choose the appropriate cipher type.
- Ability to apply the fundamentals of information retrieval theory and the main stages of analytical and synthetic processing of documents.
- Ability to justify, develop, and conduct experiments to verify the correctness and effectiveness of the adopted project decisions.
- Ability to apply a systematic approach to risk management and implement risk management methods in the operations of service organizations."

For the bachelor's degree programme Computer Engineering the institution has presented the following profile on its website:

"bachelor's degree program is designed to provide students with the foundational knowledge and practical skills required to design, develop, and optimize computer hardware and software systems.

Learning outcomes:

- Will be proficient in a variety of programming languages (e.g., c, c++, python, java) and will be capable of developing software solutions, writing algorithms, and debugging code for various applications.
- Capable of designing and implementing embedded systems'
- Will understand the principles of networking and communication protocols.

- Will have a solid understanding of operating systems, system-level programming, and software engineering practices.
- Will have hands-on experience with industry-standard tools and technologies, including integrated development environments (ides), simulation software, circuit design tools, and testing equipment.
- Will demonstrate proficiency in the design, development, and optimization of computer hardware and software systems.
- Will have a strong understanding of the architecture of computers."

For the master's degree programme Cybersecurity the institution has presented the following profile on its website:

„The Cybersecurity programme is designed to provide advanced knowledge, skills, and expertise required to tackle the ever-growing and sophisticated challenges in the field of cybersecurity. This program typically focuses on preparing students for leadership roles in securing digital infrastructures, mitigating cyber threats, and responding to incidents.

Learning outcomes:

- understand the relationship, prospects, and integration of their specialization with other fields.
- acquire knowledge in applying cybersecurity technologies.
- be familiar with security policies, risk analysis, ethical codes, physical threats and controls, information technology security structures, computer programs, and data security validation, secure design principles, related laws, applications, standards, confidentiality in information systems, information crimes, research.
- be familiar with vulnerability scanning and detection.
- be able to conduct research in the general concepts and penetration.
- acquire knowledge in secure software development."

For the master's degree programme Informatics and Control in Technical Systems the institution has presented the following profile on its website:

"The objectives typically focus on the integration of informatics (computing, data management, and software systems) with control engineering (systems and automation) to manage and optimize technical processes in industries like manufacturing, robotics, and energy

systems. The program is designed to prepare students to design, manage, and optimize intelligent systems, using computational techniques and control strategies to improve performance, safety, and efficiency in technical environments.

Learning outcomes:

- Graduates will be able to design and implement advanced control systems,
- Will have the ability to apply computational techniques such as machine learning, optimization algorithms, and artificial intelligence to enhance the functionality and performance of control systems and automation,
- Will possess strong skills in modeling, simulating, and analyzing technical systems (including mechanical, electrical, and hybrid systems).
- Will be able to use simulation tools (MATLAB/Simulink, Python, etc.) To optimize control strategies.“

D Expert Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, Content & Implementation

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

Evidence:

- Self-Assessment Report
- Study plans
- Module descriptions
- Programme Handbooks & Descriptions
- Objective-module-matrices
- Websites of all study programmes
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The experts refer to the Subject-Specific Criteria (SSC) of the Technical Committee 02 Electrical Engineering, the Technical Committee 04 Informatics/Computer Science, and the Technical Committee 06 Engineering and Management, Economics as a basis for judging whether the intended learning outcomes of the five programmes correspond with the competences as outlined by the SSCs.

The experts note that the programme objectives are outlined in the Programme Handbooks and on the websites of the five study programmes, as well as in the Self-Assessment Report. The detailed intended learning outcomes can be found in the appendix of this report. Furthermore, on the BHOS website, the experts find additional information about the career opportunities available to graduates of the five programmes.

Accordingly, students of the Process Automation Engineering bachelor's programme are trained to work in sectors such as industry, agriculture, energy, transportation, trade, and

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

medicine, where automation and control of technological processes are essential. During their studies, they complete internships in enterprises within the automation and oil and gas sectors. These internships provide hands-on experience with equipment operation, control systems, and technological parameters, along with training in health, safety, and environmental protection practices. As a result, graduates are well-prepared for positions in industrial automation, process control, and technical operations.

Graduates of the Information Security bachelor's programme are qualified to work in roles focused on cybersecurity, such as information security analysts and network security specialists, where they are responsible for identifying and mitigating vulnerabilities, preventing data breaches, and ensuring the integrity of digital systems.

Graduates of the Computer Engineering bachelor's programme have career prospects in both software and hardware domains. In more detail, graduates are qualified to pursue a wide array of technical roles, including software developer, programmer, network or system administrator, database administrator, systems analyst, embedded systems developer, and web and mobile application developer. In addition, graduates are suited for project management roles related to software systems installation and complex IT systems integration.

The Cybersecurity master's programme provides students with advanced technical knowledge in areas such as digital privacy, cryptography, and secure systems design. Throughout their studies, students gain the competencies required to secure cloud infrastructure, manage cybersecurity operations, and respond to emerging digital threats. Graduates of this programme are prepared for leadership positions in cybersecurity strategy, operations, and threat management.

Similarly, the master's programme in Informatics and Control in Technical Systems prepares graduates for roles in computerized control systems, data processing, network administration, and microcontroller development. They are qualified to work as engineers, project managers, testers of complex systems, and researchers in fields involving automated and electronic equipment.

The experts confirm that the intended learning outcomes are transparently documented and publicly available to students, lecturers, and other stakeholders. They also observe, however, that different sources present slightly different versions of the PLOs. The programme coordinators explain that these discrepancies arise from ministerial requirements: in the self-assessment report, for example, the PLOs presented are the official ministerial objectives, of which 80% is dictated by the ministry. Consequently, the official PLOs are relatively rigid, seldom updated, and rather generic. To address this, the department has created alternative versions of the PLOs tailored more specifically to the programmes

which are published on their website. The experts acknowledge the need to comply with ministerial regulations but find that neither version fully reflects the competences demonstrated in the curricula. They observe that the PLOs place a strong emphasis on knowledge rather than the full range of competencies, and that they describe fewer competencies in terms of both scope and type than are actually developed according to the curricula and module descriptions. They also observe formal inconsistencies in the module–objective matrices, where objectives are not always linked to the relevant modules. For instance, bachelor's programmes include language and communication modules, yet the PLOs make no reference to communication skills, and in the master's programmes, the module "Methodology of Scientific Research" is included but research skills are absent from the PLOs.

The following provides a detailed assessment of the programmes' PLOs:

For the bachelor's programmes in Information Security and Process Automation Engineering, the experts observe six PLOs, all of which are technical in nature. This means that transferable competences such as communication, teamwork, ethics, societal responsibility and lifelong learning are omitted. While the PLOs are clearly formulated, the list is incomplete, and the matrix, although covering all modules, contains unclear or unjustified mappings. In contrast, the Computer Engineering programme has a comparatively well-chosen set of PLOs. PLO1 explicitly covers communication in Azerbaijani and a foreign language, as well as technical outcomes related to programming, systems, networks, security and mathematics. The matrix is largely consistent here, though some fundamentals are weakly mapped, and an explicit PLO for ethics and societal impact would be advisable.

The Cybersecurity master's programme is characterised by PLOs that are overly detailed and tool-specific, resembling a syllabus more than outcome statements. While they are technically comprehensive, they do not adequately reflect the generic competences expected at master's level, such as research, communication and leadership skills. PLO1 implies ethics and policy but does not address them explicitly. A PLO for research competence is missing, leaving modules such as Methodology of Scientific Research without an appropriate reference. The Informatics and Control in Technical Systems master's programme lists only four technical PLOs, which are too narrow for Level 7 qualifications. Essential competences in research, communication, teamwork, leadership, ethics, and societal responsibility are absent, leaving several master's-level modules, including "Methodology of Scientific Research", "Higher Education Pedagogy", and "Psychology", unmapped.

While the programme coordinators acknowledge these shortcomings, they argue that they are primarily formal rather than substantive issues. The experts agree that these seem to be more formal problems, since a review of the curricula (as outlined in Chapter 1.3) reveals that they are adequate and correspond to the ASIIN SSCs and the EQF at levels 6 and 7.

Nevertheless, the experts emphasise that the PLOs must also be properly aligned with the curricula, since they serve as the primary reference for verifying whether the programmes achieve their objectives. They therefore require that the PLOs be reformulated in a competence-oriented manner that focuses on students' abilities rather than narrowly defined skills. Furthermore, they must be explicitly mapped to individual modules to ensure full consistency.

The experts moreover note that BHOS has applied for the EUR-ACE® label for the Process Automation Engineering, Information Security, and Informatics and Control in Technical Systems programmes. Three requirements must be met for this purpose: a minimum student workload, achievement of programme outcomes across eight learning areas, and adequate programme management. The first requirement is fulfilled (c.f. chapter 1.5). The second requirement, however, is not yet fully achieved, since programme outcomes are not explicitly mapped to the eight EUR-ACE learning areas in the self-assessment report. While many outcomes are implicitly covered, EUR-ACE requires explicit demonstration of coverage and assessment across all eight competence areas, namely Knowledge and Understanding, Engineering Analysis, Engineering Design, Investigations, Engineering Practice, Making Judgements, Communication and Teamworking, and Lifelong Learning. In the case of the Information Security programme, coverage is incomplete in both basic sciences and generic competences. Physics and other sciences are missing, and judgement, ethics, sustainability, communication, teamwork and lifelong learning are not explicitly stated or assessed. The Process Automation Engineering programme is the closest to full compliance, but it still requires the explicit mapping of generic outcomes. This is because, although modules on legal issues and communication are present, they are not linked to PLOs or assessment evidence. The PLOs of the Informatics and Control in Technical Systems master's programme are technically robust, but too narrow compared to the ENAEE's EQF level 7 outline. Consequently, the PLOs do not adequately address ethics, sustainability, communication, teamwork, lifelong learning or advanced research methods. Furthermore, the programme is constrained by high teaching loads and a reduced number of PhD-level staff, which limits the research-informed nature of the curriculum. The third requirement, programme management, is largely met, but several gaps remain as will be discussed in detail later on in the report. Thus, feedback loops are incomplete, as evaluation findings are not consistently shared with students. There is also no evidence of second marking or external moderation of assessments. Furthermore, the experts believe that the high teaching load and the limited number of PhD-qualified staff restrict research capacity at master's level. Finally, laboratory safety requires a more comprehensive conformity review against international standards.

In terms of internal quality assurance, the experts note that the intended learning outcomes and objectives of all study programmes are reviewed regularly by faculty members and stakeholders, including students, employers, and alumni. According to BHOS's internal quality assurance procedures, the PLOs are expected to be reviewed and, if necessary, updated annually to ensure their relevance to current disciplinary and industry developments. In practice, however, the experts learn that the review process focuses more on curricula and individual modules than on the intended learning outcomes themselves. The experts stress the need to ensure greater attention to the PLOs so that they remain aligned with both the curricula and the state of the art of the respective discipline. Industry partners consulted during the audit express satisfaction with the qualifications of graduates, highlighting their English proficiency, problem-solving ability, and diligence. They confirm that students who complete internships are often recruited as full-time employees upon graduation. The experts welcome this feedback, which reinforces their impression that the competences acquired by students are in fact adequate, even if not always consistently reflected in the documented PLOs.

In conclusion, the experts argue that the PLOs demonstrate various shortcomings and discrepancies. They recommend revising the PLOs to align them with the curricula and the competencies actually acquired by students. Furthermore, the descriptions of the intended learning outcomes have to be formulated in a competence-oriented manner, i.e. with a focus on the full range of competencies. Additionally, the three programmes applicable to the EUR-ACE seal do not exactly conform to the ENAEE guidelines and therefore require revision as described above. Finally, the regular review of the programmes must include a stronger focus on the learning outcomes, not just the programmes' content.

Criterion 1.2 Name of the Degree Programme

Evidence:

- Self-Assessment Report
- Diploma Certificates

Preliminary assessment and analysis of the experts:

The experts confirm that the English translation and the original Azerbaijani names of the five degree programmes correspond with the intended aims and learning outcomes as well as the content of the respective degree programme. They also find that the programme names are used consistently across all documents.

Criterion 1.3 Curriculum

Evidence:

- Study Plans
- Course Descriptions
- Module Descriptions
- Programme Handbooks
- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the experts:

Content & Structure of the Programmes
Each of the three bachelor's programmes comprises ten semesters and around 300 ECTS credits (Information Security: 294 credits, Process Automation Engineering: 295 credits, Computer Engineering: 300 ECTS credits). The two master's programmes comprise each four semester and 120 ECTS credits.

The first year of the bachelor's programmes constitutes the Foundation Year, in which students develop English proficiency and essential ICT skills, largely in Python programming. This intensive English training prepares students for further academic studies in English. Students can skip the Foundation Year if they can demonstrate that they have the necessary prerequisite skills. Further information on this can be found in chapter 1.4 of this report.

The academic structure follows the British model, consisting of three terms: The autumn term begins in mid-September and ends in mid-January, the spring term starts in mid-February and ends in late May, and the summer term is lecture-free to allow for internships. The exact length of each term depends on the programme and the academic year. In the first year of bachelor's programmes and master's programmes, a term is 19 weeks long, with 15 weeks dedicated to lectures and four weeks to examinations. In subsequent years, a term is 17 weeks long, divided into 12 weeks of lectures and five weeks of examinations. Students have a five-week break between the autumn and spring terms.

The Process Automation Engineering bachelor's programme begins with an introduction to mathematics and foundational topics in process automation engineering. Subsequently, the programme shifts its focus to electrical and electronics engineering, covering fundamentals and the basics of engineering mechanics and signal systems. In Year 4, the focus shifts to the control level of automation, covering microprocessors and microcontrollers, as well as including hands-on robotics and control systems. Students also begin working

with physical processes and technical documentation in the fourth academic year. In the final year, students focus on advanced automation levels and conclude their studies with a final project (10 ECTS). Over the final two years, students can choose three electives, each worth five ECTS points. However, as will be discussed later, these subjects are in all programmes only theoretically “elective”.

The bachelor’s programme in Computer Engineering begins by laying the mathematical foundations and introducing C programming and object-oriented programming. It also covers basic data structures and algorithms. In the next year, students deepen their technical knowledge in areas such as computer graphics, numerical methods, operating systems, computer networks and electrical engineering fundamentals. In the penultimate year, students specialise in areas such as artificial intelligence, database systems, electronics, signals and systems, and digital logic design. Students can select optional modules such as control systems, network security, or scripting. The final year emphasises practical application through courses such as embedded systems, robotics, microcontrollers and software engineering, finishing with a final project. The programme also includes three electives, as mentioned above.

Like the other programmes, the bachelor’s programme in Information Security begins by providing a grounding in mathematics and an introduction to information security. The third year focuses on database security, system analysis, network programming and mobile programming, as well as network security. Year 4 begins to deliver materials on the second level of the cybersecurity pyramid: testing. The fifth year covers further levels of the cybersecurity pyramid, as well as economics, and finishes with a final project. The programme also includes three electives, making up a total of 16 ECTS points.

The master’s programme in Informatics and Control in Technical Systems begins with core training in modern computational and automation technologies. Students are introduced to machine learning, process automation, control theory and communication networks, as well as scientific research methodology. Furthermore, students are trained in deep learning, robust control and machine vision. In the second year, students apply their knowledge to practical domains including robotics and embedded and mechatronic systems. Two further ("elective") subjects can be taken in areas such as big data, automation, project management and environmental systems control. The programme concludes with a master’s thesis.

In the first year of the master’s programme in Cybersecurity, students are introduced to advanced cybersecurity practices. These include network security, cryptography, cybersecurity law and ethics, cyber threat intelligence and IoT security, among other things. The second year focuses on advanced technologies and applied expertise, with in-depth studies

of topics such as blockchain security, secure software development and digital forensics, as well as research methodology. Two further ("elective") subjects can be taken in areas such as DevSecOps, malware analysis, systems engineering, cloud computing and reverse engineering to tailor their learning to specific career paths. The programme concludes with a master's thesis in which students address real-world cybersecurity challenges through independent research and technical development.

After reviewing the curricula, the experts conclude that the five programmes provide a high level of training in their respective fields, corresponding to their EQF levels. They are also convinced that the programmes are well organised and structured, with each module forming a coherent unit of teaching and learning. Overall, the curricula are designed in such a way that students can achieve the intended learning outcomes at a high level, and that they are trained in state-of-the-art topics in their respective disciplines.

Nevertheless, the experts identify a few areas for improvement. For example, when reviewing the module descriptions, the experts note that there are rarely any indications of the prerequisites, i.e. which modules and content students need to know before taking another module. For instance, the "Machine Learning" and "Neural Networks & Deep Learning" modules in the master's programme appear to overlap and are contingent on each other. However, the module descriptions do not state how they relate to each other. The programme coordinators confirm that the modules need to be taken in a certain order, and explain that this order is mandated by the study plan, which indicates that "Machine Learning" is to be taken in the first semester and "Neural Networks & Deep Learning" in the following semester. Students are also informed about this. The experts appreciate that the study plan provides guidelines on the order in which the modules should be taken. Nevertheless, the experts require the module descriptions to also include information about the prerequisites, to make it clear and transparent which order the modules must be completed in.

As mentioned before, each bachelor's programme includes three elective modules, whereas each master's programme includes two. However, in the audit discussions, the experts learn that these modules are not actually elective. Instead, the programme coordinators select a module from each elective block, and all students in the cohort are required to take this module. The programme coordinators explain that this is due to a shortage of teaching staff. As will be explained in more detail in Chapter 3.1, around 50–60% of teachers in the IT Department are permanent staff, while 40–50% are part-time or visiting lecturers from industry and company partnerships. The programme coordinators explain that, despite their best efforts, it is very difficult for them to recruit permanent teaching staff. This is primarily due to the requirement that teachers need to have advanced English skills,

and secondly due to the highly specialised nature of the IT department's study programmes. In addition, most graduates in these fields decide to work in industry instead of becoming a teacher at the university due to the high demand for graduates with this qualification profile in the Azerbaijani labour market and the prospect of a higher salary than in academia. Consequently, there is a high percentage of short-term teaching staff, and the programme coordinators usually select the module from each elective block depending on the expertise of the available teaching staff. However, they emphasise that different modules are offered every year and that students can also submit preferences for the elective to be chosen. The experts understand the circumstances which limit flexibility and opportunities. However, they believe that alternative solutions should be found to make the electives truly elective, i.e. to allow students to choose modules according to their preferences. They recommend utilising the synergies of the IT Department and suggest that, for example, three electives be offered per elective block to students of all three bachelor's programmes, allowing them to choose from among the three electives. This way, the teaching workload remains the same, but students are given the freedom to choose a module themselves. The programme coordinators appreciate this idea and state that they will consider it in their future planning.

Internships

Both the bachelor's and master's programmes include multiple internships. In the bachelor's programmes, students have to complete an industrial internship during the summer break at the end of the second, third and fourth academic years. Each internship lasts four weeks and is worth six ECTS credits. At the end of the fifth year, students must complete a 10-week final internship. This is conducted in the final stage of the bachelor's degree to support research for the graduation thesis. This internship is also mandatory and is worth 15 ECTS. At the end of each internship, students must submit an internship report and defend their report before the Internship Commission.

The master's programmes include two types of mandatory internship: The Pedagogical Internship and the Scientific-Research Internship. The scientific research internship takes place in the third semester and comprises 90 hours (3 ECTS credits) in the Informatics and Control in Technical Systems programme and 180 hours (6 ECTS credits) in the Cybersecurity programme. This internship focuses on research activities, providing students with an opportunity to engage in scientific work and contribute to academic or industry-related research projects. The pedagogical internship takes place in the fourth semester and comprises 360 hours (12 ECTS credits) in the Informatics and Control in Technical Systems programme and 180 hours (6 ECTS credits) in the Cybersecurity programme. During this internship, students select a subject they would like to teach at BHOS, delivering 2–3 lectures and 2–3 lab sessions while receiving feedback from an academic supervisor. The experts

learn that many students who complete a master's programme intend to pursue an academic career. For this reason, students should also learn pedagogical skills that they can apply as lecturers later on.

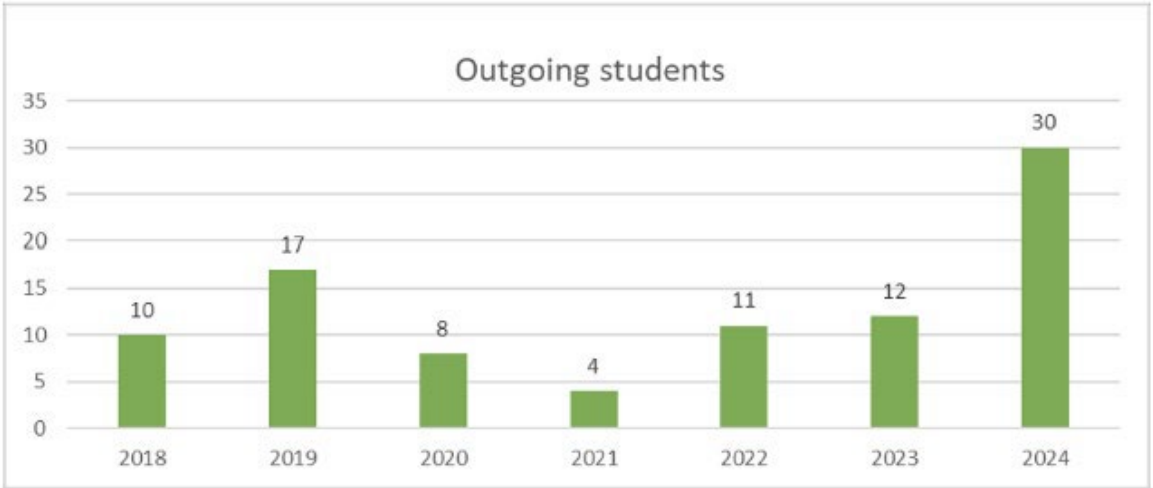
The experts appreciate the integration of several internships into the programmes and consider the close relationship of bachelor's programmes with industry to be a strength of the three programmes. They confirm that all internships are well integrated into the curricula, enabling students to continually apply theory to practice. BHOS's extensive network of industry partners is another advantage, enabling students to establish contact with numerous potential employers during their studies. Internships in the master's programmes primarily prepare for teaching and researching which they also deem adequate.

Student Mobility

In the self-assessment report, it is indicated that the promotion of international student and staff mobility is a central element of BHOS' Internationalization Policy and Strategy for 2023–2027. The institution maintains academic exchange agreements with nearly 40 universities across Europe, Asia, and Central Asia, including universities in Germany, Spain, Portugal, Italy, Türkiye, Czech Republic, Serbia, China, Romania, Bulgaria, Poland, Kazakhstan, and Russia. Within these partnerships, the university offers both student and academic staff mobility opportunities, coordinated through Erasmus+ and other international frameworks. The experts learn in the audit that the management of BHOS is continuously trying to expand the portfolio of international partners in order to increase the opportunities for students and staff to go abroad. Currently, most of the students visit universities in Türkiye and Bulgaria. According to the university management, they intend to establish more partnerships in Africa and Central Asia e.g. in Uzbekistan and Kazakhstan.

Between the academic years 2020 and 2025, a total of 65 BHOS students participated in full-time exchange programs abroad, while an additional 20 students took part in short-term summer school programs organized by the China University of Petroleum. At the same time, BHOS has hosted 41 incoming students through exchange agreements during the same five-year period. The number of incoming exchange students has steadily increased, from 1 in 2020–21 to 13 in 2024–25.

The following figure shows the development of the number of outgoing students.



As part of its internationalization efforts, BHOS has also adopted a strategy to attract international students. The objective is to increase the annual number of international students to 35 by the 2026/2027 academic year. The number of international students admitted in recent years has increased from 11 students in 2020 to 42 students in 2024.

BHOS uses the European Credit Transfer System (ECTS) to ensure academic compatibility and the recognition of externally acquired credits. It recognizes academic achievements from other accredited institutions, both national and international, in accordance with Resolution No. 348 of the Cabinet of Ministers of the Republic of Azerbaijan. This framework serves to facilitate credit transfer and academic continuity for mobile students.

Students participating in exchange programs select their courses in coordination with the relevant academic departments and the dean’s office. These courses are documented in a Learning Agreement and pre-approved prior to the mobility period. Upon return, academic transcripts from host institutions are reviewed and recognized by BHOS, and the credits are integrated into the students’ academic records.

In the audit, the students report that they are aware of the mobility opportunities and find the range of options adequate. They remark that there are not too many options in some areas, such as Cybersecurity, but they understand that this is mainly due to the fact that it is a very modern and specific subject that not all universities offer as a dedicated study programme. Overall, however, students are satisfied with the procedures and services available to support them when going abroad, and they also appreciate the fact that BHOS provides several scholarships.

Both the experts and the students agree that BHOS provides attractive mobility opportunities. They also applaud the institution's continuous efforts to increase the number of inter-

national partnerships, which translates into a rising number of incoming and outgoing students. They also confirm that BHOS has transparent and adequate regulations in place for recognising qualifications.

Periodic Review of the Curriculum

According to the self-assessment report, the curricula at BHOS are regularly reviewed to ensure alignment with industry standards, technological advancements and educational best practices. This involves faculty members, students, industry experts, and alumni, and adheres to national standards set by the Ministry of Education.

Major curriculum reviews take place every two to five years and may include programme restructuring, the introduction of new courses, and significant content updates. Minor changes, such as updates to syllabuses and materials, are carried out annually before each semester.

The review process begins with an analysis of course content and teaching methods, followed by input from academic departments, industry partners and alumni. Proposed changes are approved by internal committees and the Scientific Council. Once approved, the updates are implemented progressively and continuously monitored for effectiveness.

The experts are pleased to hear that BHOS considers the feedback of various stakeholders when reviewing its programmes and maintains close links with industry. Overall, the experts conclude that there is a systematic process in place for the regular review and improvement of programmes.

Criterion 1.4 Admission Requirements

Evidence:

- Self-Assessment Report
- "Education Law" of the Republic of Azerbaijan,
- Regulations on admission to master's degrees
- BHOS website
- Student Handbook
- Discussions during the audit

Preliminary assessment and analysis of the experts:
Admission to Baku Higher Oil School is centrally regulated in accordance with national legislation and standardized procedures. At both bachelor's and master's levels, admission is

conducted through entrance examinations administered by the State Examination Center (DİM) of the Republic of Azerbaijan.

For bachelor's programmes, regular admission is based on the national entrance exam results. The minimum admission threshold varies each year, depending on the number of applicants, competitive dynamics, and the national admission plan. However, to ensure candidates meet the academic and competency profile expectations of the institution, BHOS has established a general minimum score requirement of 400 out of 700 for admission to its bachelor's programmes. Students who have demonstrated exceptional performance in national or international academic Olympiads, competitions, or subject contests may be admitted directly.

Newly admitted bachelor's students are assessed in English and ICT upon entry. Based on these results, students are placed into the most appropriate track within the Foundation Year. Students who wish to bypass the Foundation Year and proceed directly to the second year must meet the requirements outlined in the institutional regulations. This includes providing an authorised English certificate, such as an IELTS certificate with a score of 6.0 or equivalent, as well as certificates in ICT from Cisco on IT Essentials and in Python programming.

BHOS offers master's education on both state-funded and tuition-based schemes. In accordance with national legislation, students are only entitled to state-funded master's education once. Admission is governed by the "Rules for Admission to master's Programmes at Higher Education Institutions in the Republic of Azerbaijan". All applicants must hold a bachelor's degree or equivalent higher education qualification that is relevant to the selected master's programme, and must participate in the competitive process organised by the State Examination Centre. This involves an examination assessing logical reasoning, computer science knowledge and foreign language proficiency. Specialisation preferences are submitted electronically and ranked by applicants. Placement into specific programmes is determined by examination scores, applicant preferences and the availability of state-funded or tuition-based places.

Candidates applying for admission to BHOS master's programmes specifically are required to answer at least 15 out of 25 questions correctly in the English language section of the admission exam administered by the State Examination Centre. This requirement ensures that admitted students meet the language proficiency demands of the programmes.

Admission of international students is regulated by the Law on Education of the Republic of Azerbaijan. Applicants who meet the criteria specified in this legislation are eligible to apply. In addition, BHOS has recently established a dedicated Committee to oversee international student admissions and to improve the effectiveness of this process.

In the three bachelor's programmes, the average intake corresponds to the maximum capacity of the programme, i.e. 50 students in Process Automation Engineering, 30 in Information Security, and 50 in Computer Engineering. In the master's programmes, the cohorts are significantly smaller, with an average intake of five students out of a maximum of ten in Informatics and Control in Technical Systems, and an intake of five students out of a maximum of seven in Cyber Security.

The experts review the admission requirements and procedures, finding them appropriate for supporting students in achieving the intended learning outcomes of their respective programmes. They also note that the admission requirements are transparent and binding for all stakeholders, and they welcome BHOS' clear and binding rules on the recognition of external qualifications. The admission ratios also confirm the demand for the five programmes.

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report
- Programme Handbooks
- Study plans
- Module descriptions
- Discussions during the audit
- Student surveys
- Statistical data

Preliminary assessment and analysis of the experts:
Each of the three bachelor's programmes comprises ten semesters and around 300 ECTS credits: The Information Security programme consists of 294 credits; the Process Automation Engineering programme of 295 credits; and the Computer Engineering programme of 300 credits. The two master's programmes each comprise four semesters and 120 ECTS credits. As previously mentioned, the terms consist of lecture and examination time and last between 15 and 17 weeks, depending on the programme and year.

BHOS uses the ECTS credit system. In line with the ECTS, BHOS has defined 1 ECTS as equalling a workload of 30 hours. The calculation of the workload considers both contact hours as well as students' self-study time. According to the self-assessment report, the exact number of credit points for each module is determined by evaluating the scope and complexity of the content, the time required for students to master the material, and the ex-

pected level of academic achievement. To ensure that the awarded credits reflect the actual workload, BHOS continuously monitors the workload. Monitoring is typically carried out through teacher evaluation and by gathering feedback from students and industry partners. Students therefore receive surveys every semester in which they are asked to indicate their total workload and provide feedback on whether they consider the workload to be adequate and manageable. If the feedback indicates any discrepancies in the workload calculations made by the teachers, adjustments are made.

The experts welcome the fact that BHOS applies a credit system based on students' total workload, and that students are regularly surveyed regarding the adequacy of the credits awarded. They also confirm that all compulsory components of the study programme are awarded credits. They find that the estimated workload is realistic and well-founded, and that structural peaks in workload have been avoided.

However, they note that, due to the short term length, the workload seems rather high and condensed during the lecture period. Teachers and students confirm that the workload is intense, with students spending an average of 40–50 hours per week on their studies, sometimes more. Nevertheless, students emphasise that, overall, the workload is manageable and that all five programmes can be completed within the standard period of study. Furthermore, they verify that they are regularly asked about the adequacy of the workload.

According to the statistics, students complete their respective study period within the intended timeframe, i.e. five years for a bachelor's programme and two years for a master's programme. Regarding the success rate: Data shows that approximately 74% of students in Process Automation Engineering successfully complete their degree; in Information Security, the figure is 80%. No number has been provided for Computer Engineering, but it is assumed that the number is similar to those for the other bachelor's programmes. In the master's programmes, 67% of students successfully graduate from Informatics and Control in Technical Systems, and in Cyber Security, 100% of students successfully complete their studies. BHOS has conducted a detailed analysis of the reasons for student dropout and concluded that this is due to several factors, such as transferring to another university or major, or deciding to continue their education abroad. The analysis shows that the reasons for dropping out are not rooted in systematic issues at BHOS or in challenges relating to the workload.

The experts conclude that the statistics emphasise that the five programmes can be completed within the intended timeframe, and do not consider the dropout rates to be critical. They also appreciate BHOS's thorough analysis of the reasons behind the dropout rate and welcome the fact that these are connected to private reasons of the students.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

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

Preliminary assessment and analysis of the experts:

According to the self-assessment report, the teaching methodology in all five programmes is designed to foster a comprehensive, practice-oriented and student-centred learning environment. The combination of diverse instructional approaches aims to achieve the defined learning outcomes by combining theoretical knowledge with practical application, as well as developing both technical and soft skills.

Lectures are the primary mode of teaching. These are supplemented by interactive tutorials and seminars, in which students participate in discussions, problem-solving exercises and question-and-answer sessions to enhance their grasp of key concepts.

Practical training is a major component of the BHOS approach. Laboratory sessions provide students with hands-on experience, developing their research skills and technical problem-solving abilities. Project-based learning further enhances this practical training. Through individual and group projects, particularly capstone projects in the final year, students simulate real-world industry challenges and develop solutions independently, applying their knowledge in the process.

Different teaching methods aim to foster different soft skills, such as analytical thinking and research skills. Group work, in particular, encourages leadership, teamwork and collaborative decision-making — all of which are important in professional environments. Students also gain experience in presenting their research and project outcomes, which helps them to develop strong communication and presentation skills.

The teaching staff also uses digital tools to complement the learning experience. Learning platforms provide online access to lecture materials, assignments and assessments. Students also have access to computer labs with advanced hardware and software for programming, simulations and academic project development.

According to the self-assessment report, BHOS is striving to incorporate more innovative teaching approaches, such as blended learning. Additionally, the teaching staff is working

to incorporate research-oriented learning into the early stages of the curriculum to support the development of academic skills from an early stage.

Teaching methods are continuously reviewed through regular evaluations. Student and faculty feedback is used to assess and refine teaching strategies. Faculty members are encouraged to participate in professional development activities, such as workshops and seminars, to ensure they remain informed about evolving teaching methods and educational technologies.

In the audit, students report that they are very satisfied with the variety of teaching methods. They confirm that the teaching methods are student-centred and that the teachers, particularly the permanent teaching staff, are committed to delivering a high quality of teaching. However, they report that some short-term lecturers from industry had very poor pedagogical skills. Once students complained about one such lecturer, the programme coordinators reviewed and verified the issue, and the lecturer's contract was terminated.

The expert group considers the teaching methods and tools to be appropriate for supporting students in achieving the intended learning outcomes of their respective programmes of study. They also find that the methods are adequately adapted to the specific subject, culture and study format. Furthermore, they confirm that the programmes incorporate a variety of teaching and learning methods, and value the opportunity for students to apply their knowledge in a practical setting while also developing their scientific skills.

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

The experts initially identified several shortcomings in the Programme Learning Outcomes including a lack of competence-orientation, incomplete alignment with the curricula, formal inconsistencies in the module–objective matrices, and insufficient coverage of the eight EUR-ACE competence areas. In the Information Security programme, basic-science foundations were not explicitly documented, and across programmes, the link between modules, assessments, and PLOs lacked transparency. In response, the university conducted a comprehensive programme review with a strengthened focus on learning outcomes. On that basis, they revised the PLOs to cover the full range of competencies and updated the objectives–module matrices to ensure comprehensive and explicit mapping. The university also clarified how basic-science learning outcomes are achieved in the Information Security curriculum through integrated delivery and assessment within relevant modules. In future, a comprehensive annual review of the PLOs will be carried out.

With regard to the alignment of the other EUR-ACE criteria, BHOS reports that it has recently increased the number of teaching staff significantly, so that the overall teaching load

for staff members should be reduced and allow more time for research activities, also in collaboration with students, particularly those on Master's programmes. Furthermore, BHOS emphasised once again the regular research activities and their integration into teaching. Having reviewed the university's revisions, the expert group has concluded that all previously identified deficits have now been fully addressed. The updated PLOs are systematic and competence-oriented, and are now fully aligned with the curricula and mapped to the modules. They also now comply with EUR-ACE requirements. The group welcomes the recruitment of additional teaching staff but still encourages the university management to support research activities among both teaching staff and Master's students even more. Furthermore, the experts acknowledge that BHOS has systematic and strict rules to ensure laboratory safety in line with international standards (certified ISO 45001). Overall, the experts therefore consider the requirement to be fulfilled.

The experts also initially recommended that elective modules be genuinely available for students to choose from, noting that synergies within the IT faculty should be better utilised. BHOS stated in their comment that the university conducted surveys among students to identify preferred elective topics for the 2025–2026 academic year. The most requested courses were subsequently approved as electives. Additionally, the expansion of academic staff capacity has enabled the university to broaden the range of elective courses and increase flexibility for students. The experts conclude that the recommendation has been fulfilled since the university has taken appropriate measures to expand elective opportunities and is moving in the right direction toward offering a wider and more flexible selection.

Criterion fulfilled.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Self-Assessment Report
- Study plans
- Module descriptions
- Samples Exams & Theses
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the self-assessment report, the examination system at the Baku Higher Oil School is designed to ensure that the intended learning outcomes are achieved. Therefore, a combination of formative and summative assessment methods is used, including quizzes, assignments, laboratory reports, project presentations, mid-term examinations, and final examinations.

The assessment methods and criteria for each module are outlined in the course syllabus and communicated to students during the first class session. The syllabus is also made available through the institution's Learning Management System (LMS). This ensures that students are fully informed about the evaluation process from the outset of the course.

Prior to each final examination, BHOS provides students with a schedule of consultation sessions to allow them to clarify the examination structure, grading criteria and other relevant information. Following examinations, students may review their graded work, including the assessment rubrics and model answers. Students also have the right to appeal their grades.

For project-based assessments, such as reports or final projects, BHOS provides a handbook on report writing to clarify academic expectations. Where a student undertakes a project in collaboration with an external company or research institution, teachers from BHOS will independently assess the student's work in accordance with academic standards and predefined grading criteria. Feedback from the external partner is also taken into consideration during the assessment process.

Examination scheduling is carefully planned to align with academic timelines. BHOS guarantees that at least five full days will elapse between the end of the exam session and the start of the next semester. Furthermore, students are provided with a minimum of one full day of rest between exams. If a student must retake a subject or sit a resit exam, these assessments may be scheduled on the same day in staggered time slots to avoid overlap.

BHOS' regulations concerning resits, disability accommodations, and illness-related absences are aligned with the Law on Education of the Republic of Azerbaijan. Students who miss an exam for valid reasons (e.g. illness or official events) can take a make-up exam within the same academic semester, which enables them to stay on track for timely graduation. Students who fail an exam may apply for a resit in up to two subjects per academic year, in accordance with national legislation. The application process for resits, along with related exam guidelines, is outlined in the Student Handbook.

In accordance with Azerbaijan's Law on the Rights of Persons with Disabilities and the State Programme on Inclusive Education, BHOS provides additional support for students with

disabilities. Support measures include assistive devices, extra time, alternative seating and customised assessment formats. Requests for adjustments must be submitted before the examination period begins, and invigilators are trained to support students with disabilities throughout the examination process.

Final Thesis Project

In both the bachelor's and master's programmes, students must complete a thesis at the end of their studies. These projects assess students' ability to apply theoretical knowledge, research methodology and analytical skills to real-world, discipline-specific problems. Students also receive advance access to structured guidelines on research methodology and academic writing, and additional support is provided via the university's Learning Management System.

Academic staff propose research topics in their own areas of expertise, and in some cases these are developed in collaboration with industry partners. Students review the list of proposed topics and select one based on their academic interests and background, after consulting potential supervisors. All selected topics are subject to formal approval by the Rector of BHOS to ensure alignment with institutional academic standards.

Each student is assigned a scientific supervisor to provide consistent guidance throughout the research process. Supervisors help students to refine their research questions, apply appropriate methodologies and prepare their written thesis. Supervisors hold regular consultation hours to monitor progress and offer feedback. For industry-oriented projects, a secondary advisor from the professional sector may be involved to ensure practical relevance. During the audit, the experts learn that the industrial internship in the final semester of bachelor's programmes also helps students to collect data for their thesis projects.

Upon completion of the project, the supervisor awards a preliminary grade based on the academic quality and methodological soundness of the work. A second review is conducted by an external expert, either from a collaborating university or an industry partner, to ensure objectivity and adherence to academic and professional standards. Defence of the thesis or graduation work takes place as part of the Final State Attestation, a state-regulated assessment conducted before the State Attestation Commission and the Specialised Scientific Council.

Only students who have successfully completed all the required academic credits are eligible to participate in the defence. This public session serves as the final academic evaluation before graduation. Based on the results of the defence, the commission will determine whether to award the student a qualification, degree and diploma. This decision is subsequently approved by the Scientific Council of the relevant faculty.

In the audit, students report to be satisfied with the examination system for all five study programmes. They confirm that they receive all relevant information such as examination dates and assessment criteria at the beginning of the semester. The examination policy, including the compensation policy, is made transparent to all concerned. When asked about the workload and the difficulty of the examinations, students say that both are appropriate and manageable.

However, students report about technical issues relating to the examination system in the audit. They explain that the examination results are published on the PMS platform. Once published, students have a couple of days to file an appeal; otherwise, the deadline is missed and the opportunity is lost. Since PMS can only be accessed on campus, students occasionally miss the deadline for filing an appeal because they are unaware that the results have been published. The experts understand the students' frustration and recommend modifying the system to give students a fair chance to file an appeal. For example, they recommend that students be given remote access to PMS so that they do not have to travel to campus, particularly since it is far from the city centre, and that they receive a notification once the results have been published to avoid missing the deadline for submitting an appeal.

Other than that, the experts conclude that BHOS has a comprehensive examination system in place. Having reviewed various examination samples, they confirm that a variety of competence-based assessment methods are used in the five programmes under review, and that these are adequate for assessing the achievement of the courses' and programmes' learning outcomes. The samples also demonstrate that they correspond to the respective EQF level. The experts also note positively that the assessment forms are regularly reviewed and that the entire assessment system is monitored to ensure fairness and appropriateness. Additionally, the experts find the procedure for the final thesis in both the bachelor's and master's programmes convincing. Samples of final theses from all five programmes show that students can work scientifically and independently on projects at the appropriate level.

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

The experts acknowledge the university's comments, as set out in Chapter E of this report. They maintain their opinion that the criteria have been fully met and that there is no need for further requirements or recommendations.

Criterion fulfilled.

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Self-Assessment Report
- Staff Handbook
- Study plans
- Module descriptions
- Discussions during the Audit

Preliminary assessment and analysis of the experts:
At BHOS, academic staff hold various positions, including professors, associate professors, and lecturers. The academic rank of each faculty member is determined by their research output, academic qualifications, publications, student supervision, and involvement in other professional activities.

The Department of Information Technology comprises 13 full-time academic staff, including five associate professors. Six of these staff members hold PhDs, and two others are currently pursuing doctoral studies. In addition to full-time staff, the department employs part-time lecturers from industry. During the audit, the experts learn that approximately 40–50% of the total teaching load in the IT Department is carried by external lecturers. The number of part-time lecturers is roughly equal to the number of full-time faculty members. The student–teacher ratio in the department is around 11:1.

All full-time academic staff are expected to contribute to teaching, research, and administrative duties, although the distribution of responsibilities varies by individual. With regard to administrative tasks, all faculty members are involved in minor duties such as curriculum development and participation in quality assurance processes. However, the main administrative responsibilities lie with the Dean of the Department.

Teaching responsibilities include delivering lectures and seminars, supervising laboratory sessions, and guiding students through individual and group projects. Faculty members also mentor students during internships and final-year projects. The standard teaching load for a full-time academic is 620 hours per academic year, equating to approximately 25 hours per week over 24 weeks. However, during the audit, experts are informed that in some cases, the annual teaching load can reach up to 1,000 hours. PhD students receive a reduced teaching load to allow more time for their research. Experts also learn that the actual weekly workload can be as high as 30 – 35 hours during lecture periods.

Due to this substantial load, the experts ask faculty members about how they manage their time and whether enough time remains for other tasks. Staff acknowledge that the teaching workload is demanding and occasionally strenuous, but overall manageable. They emphasise that, since administrative duties are minimal, most of the remaining time can be dedicated to research activities. Faculty members explain that the high teaching load is, among other factors, a consequence of staffing shortages, which the experts identify as the root cause of several challenges. For instance, as detailed in Chapter 1.3 of this report, the shortage of staff has led to a situation where electives cannot be adequately offered.

Furthermore, students report several issues associated with short-term teaching staff. While they find the permanent academic staff to be competent and supportive, they describe negative experiences with some short-term lecturers. In certain cases, these lecturers lacked adequate didactic skills or even sufficient technical knowledge of the subject. Some even failed to follow the prescribed curriculum, opting instead to teach unrelated content. Students state that they reported such incidents, and that following classroom visits by the Dean — who confirmed the inadequacy of those lecturers — contracts with the concerned individuals were terminated. However, in most instances, students had to complete the course with the same lecturer, as replacements could not be arranged at short notice. These issues were particularly prevalent in the master's programme in Cyber Security — a modern and highly specialised field where qualified teaching staff are especially difficult to recruit. While students express an understanding of the faculty's difficult position, they also point out that the situation was detrimental to their study experience.

The experts acknowledge the students' frustrations and inquire how the faculty is managing the situation. Faculty members state that they are aware of the challenges posed by limited teaching staff and are actively seeking solutions. Recruitment remains difficult due to two main factors: the requirement for English proficiency and the specialised nature of the study programmes. Furthermore, many graduates in Azerbaijan choose careers in industry, where demand for highly qualified professionals is high and salaries often exceed those in academia. To address this issue, the faculty's strategy is to develop its own academic staff by identifying talented master's students at BHOS and supporting them in pursuing doctoral studies. For example, two former students are currently teaching and undertaking their PhDs at BHOS. In the meantime, the department relies on external lecturers to cover essential teaching needs. They add that before hiring, candidates are typically required to conduct a trial lesson in front of students to assess their suitability. However, as some cases have shown, this process does not always prevent inadequate teaching. Faculty members also highlight that there are established complaint mechanisms for students, and that student feedback is taken seriously and acted upon.

The experts recognise the difficult circumstances faced by both students and faculty. They also acknowledged that the department's options are limited and commend the efforts being made to address the situation. The experts welcome the department's commitment to expanding its pool of permanent staff, particularly through the recruitment and development of its own graduates. While they empathise with students' dissatisfaction, they note that appropriate feedback mechanisms are in place and procedures are followed to address and solve problems.

In conclusion, although the current situation is not ideal, the experts find that the number of permanent and short-term teaching staff is broadly sufficient to deliver the five study programmes and ensure that students can achieve the intended learning outcomes. Moreover, they are confident that, over time, the department's ongoing efforts will lead to an increase in permanent teaching staff. For example, as indicated by the industry partners in the audit, they suggest considering the hiring of foreign staff to counter the shortage of staff. Furthermore, the experts confirm that the professional orientation and qualifications of the teaching staff are well-suited to delivering the degree programmes at the intended level successfully. Nevertheless, the experts recommend reforming the elective system by establishing a small number of elective modules that are open to students across both bachelor's and master's programmes. This would ensure that elective options are genuinely available.

Staff Development

The Quality Assurance Department, Human Resources Department (HRD), and faculty leadership are responsible for the academic and didactic development of teaching staff. Faculty members are encouraged to participate in a variety of professional development activities to enhance their expertise and expand their technical knowledge. These include small-scale, weekly research activities to stay current in their discipline and ensure that teaching content remains up to date. Academic development also includes conducting personal research projects, publishing technical articles and books, and attending external seminars and conferences.

During the audit, faculty members report that, on average, each academic in the department publishes at least one paper per year — either independently or collaboratively with colleagues. Occasionally, they also involve master's students in research projects, co-authoring papers with them. Furthermore, BHOS provides access to facilities such as the ICT and Huawei Academies for research purposes, although the Huawei Academy is currently inactive.

Teachers state that the time and resources available for research activities are acceptable. However, they also acknowledge that research holds a secondary role at BHOS, primarily

due to the high teaching workload. Furthermore, the experts learn that BHOS does not provide upfront funding for research activities such as publications. Instead, a bonus system is in place: faculty members initially cover expenses themselves, and at the end of the academic year, BHOS reviews all additional activities and awards bonuses accordingly. This bonus system is also intended to incentivise further academic activity. Teachers confirm that this system ultimately reimburses their expenses.

Moreover, the experts find that extended research stays or sabbaticals are not common practice at BHOS. A small number of staff members do participate in international exchanges through the Erasmus Mundus programme, visiting universities in countries such as Bulgaria and Greece. However, these visits are typically short, lasting about one week. Teachers express a strong interest in undertaking longer research stays at other universities or companies and participating in extended international exchanges — provided that sufficient funding were made available.

The experts fully understand and support these aspirations. While they recognise that BHOS makes an effort to support academic and professional development—evidenced by the bonus system — they agree that additional budget should be allocated specifically for research purposes. Increased investment in extended academic exchanges, sabbaticals, research visits, and other academic projects would not only enhance research output but also strengthen the international research network of both faculty members and BHOS more broadly.

With regard to ongoing educational and professional development, teachers have access to workshops and short training sessions periodically organised by the university or department. These workshops cover topics such as didactics, pedagogy, and quality assurance. Faculty members report regular participation in these sessions. In addition, SOCAR conducts annual surveys to assess staff satisfaction and to broaden the set of workshops. Regular review mechanisms are also in place to evaluate the skills and qualifications of teaching staff.

The experts acknowledge that BHOS has established sound mechanisms for the continuous professional development of its permanent academic staff. However, they note that these opportunities are currently only available to full-time teaching staff. In light of the significant proportion of courses delivered by external lecturers — and in response to frequent student complaints — they recommend extending training opportunities to include external teaching staff. Industry representatives consulted during the audit support this recommendation. They point out that professionals from industry often lack formal pedagogical training and would benefit from opportunities to develop their teaching skills and stay informed about modern instructional methods. The experts conclude that implementing

such development opportunities would significantly enhance the overall teaching quality at BHOS.

Criterion 3.2 Student Support and Student Services

Evidence:

- Self-Assessment Report
- Discussions during the Audit

Preliminary assessment and analysis of the experts:
The Baku Higher Oil School provides a student-oriented support system aimed at helping students to achieve their academic, professional and personal development goals. Information about these services is publicly available and communicated directly to students.

At the beginning of their studies, every student is assigned a personal advisor who can provide general academic support, for example on course selection and career planning. Students can also contact their respective teacher directly for additional academic advice.

New students undergo an orientation programme to introduce them to university regulations, academic procedures and available services. Throughout their studies, students have access to training sessions and career-focused events, such as job fairs and professional workshops, which are intended to support employment opportunities.

In addition to academic support, students have access to a wide range of services that contribute to a well-rounded university experience. For example, students can participate in extracurricular activities, such as student-led organisations, intellectual forums, cultural events and sports. The Centre for Innovation and Research at BHOS supports entrepreneurial initiatives. It features co-working spaces, private rooms for start-up teams and laboratory facilities. The centre runs a two-month start-up programme offering business training, networking opportunities, and product development support. Students are also actively involved in competitions and projects, such as Olympiads, hackathons and festivals, with mentorship provided by the Information Technology Department. Furthermore, students at BHOS can participate in international academic activities, including annual conferences such as “Digital Transformation” and “INFOTECH”.

To support student well-being, the university offers on-campus medical services and psychological support from a full-time mental health professional. BHOS also has systematic support for students with special needs in place.

The students report in the audit that they are well informed about and satisfied with the services available to them. However, they express a desire for more funding for competi-

tions. They state that, due to a limited BHOS budget, they could not attend all the competitions to which they were invited. As these competitions provide valuable experience for students, both academically and in terms of preparation for their professional practice, the experts suggest that BHOS increases the budget for competitions so that more students can participate.

Furthermore, students report being dissatisfied with some features of the digital platforms used at BHOS. In general, there are two different platforms: LMS for teaching materials and PMS for administrative purposes, e.g. displaying students' grades. As previously mentioned, students complain that, since the PMS can only be accessed on campus, they have missed the publication of exam results and thus missed the deadline for submitting an appeal. Furthermore, students explain that the LMS is used to record attendance; however, students cannot view this information themselves. In Azerbaijan, students are legally permitted to miss a maximum of seven sessions per module per semester, which is why BHOS monitors attendance. Students request this access for transparency reasons. Additionally, they report that course material is scattered across platforms such as Teams, Outlook and the LMS, and they would like all data to be saved in one location. The experts agree with these suggestions and recommend that students should also be allowed to view their attendance times, as well as recommending that course material be saved in one place.

Apart from these minor issues, the experts find that BHOS offers a comprehensive student support system with sufficient resources to provide individual guidance, counselling and support to all students. This system helps students adapt to university life, achieve the intended learning outcomes, and complete their studies successfully.

Criterion 3.3 Funds and equipment

Evidence:

- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The degree programmes and facilities at BHOS are primarily funded by SOCAR, which contributes around 55% of the institution’s financial resources, including scholarships. The remaining funding comes from tuition fees and government support. Tuition fees average 4,500 AZN per year, which is approximately 2,250 Euros. This funding structure ensures the operation of the programmes, including specific initiatives such as student exchange programmes and participation in international conferences. Given BHOS’ financial structure, the experts consider the funding to be secure and the financial planning to be reliable. They

find that sufficient resources are in place to maintain the current level of operation for the five programmes over the next six years.

The IT Department is equipped with facilities that support both teaching and research. Next to a variety of lecture halls and seminar rooms, it houses 11 laboratories in total, including the Robotics Centre, the Microprocessor and Microcontroller Laboratory, and the Computer Networks Laboratory. Classrooms are equipped with modern technology to support contemporary teaching methods.

BHOS also provides a central library, accessible to all students, offering a wide range of international literature, scientific journals, and academic databases. Students have remote access to these digital resources, allowing them to conduct research, access publications, and stay updated on the latest developments in their respective fields.

During the audit, both students and teachers express satisfaction with the facilities and equipment at BHOS. Students report that all necessary resources, including software licences, are available. However, they point out that the internet connection could be improved. The limited connectivity appears to be related to strict cybersecurity measures undertaken by SOCAR, which restrict access at times.

Teachers confirm that the overall availability of equipment and funding is sufficient. Nonetheless, they explain that in cases where students undertake more advanced projects—for example, in robotics — some specific tools may be unavailable due to higher costs. In such situations, teachers occasionally purchase the required tools using their own funds and are later reimbursed through the institution's bonus system at the end of the year. While teachers state that they do not object to this arrangement, they express a preference for an increased budget to avoid the need for personal expenditure on laboratory projects. The experts agree with this concern and recommend increasing the budget allocated to student projects to ensure that sufficient resources are available for additional or specialised equipment when needed. As noted in Chapter 3.1, the experts also suggest increasing the overall budget for academic and research activities.

During the audit visit, the experts tour the campus facilities and laboratories. They find that the infrastructure and technical equipment in the laboratories are adequate for delivering the programmes, particularly in relation to lab sessions, and achieving the intended learning outcomes. Nevertheless, they recommend allocating a larger budget to academic activities and student projects to further support research and practical engagement.

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

The experts recommended allocating a larger budget and additional support measures for academic exchange, research activities and extended research periods (e.g. sabbaticals or visits to companies or other universities). In response, the university explained that sabbaticals are uncommon and long-term research leave is legally available only to doctoral students. BHOS noted that five members of staff currently have permission to conduct external research during working hours, and emphasised the international mobility achieved through partnerships with almost 40 universities, as well as growth in student and staff mobility and an increase in the number of international students. The university also highlighted that numerous international academic exchange activities have taken place, although these stays are typically short. The experts welcome the fact that these mobility activities are active and expanding. However, BHOS did not commit to increasing funding or support for research activities, nor to enabling longer-term academic exchanges or research mobility. It seems that most support for mobility goes towards student mobility, rather than academic mobility. The experts therefore reiterate their recommendation and encourage further measures and dedicated funding to strengthen research and extend staff mobility in future.

BHOS did not provide a comment on the experts' recommendation to increase the budget for lab projects, since it occasionally happens that teachers have to purchase the required tools for advanced projects using their own funds. For this reason, the recommendation is maintained.

The experts also recommended that external lecturers—particularly those from industry—be offered opportunities to further develop their didactic skills. In response, the university introduced several measures beginning in the second semester of 2025 academic year. All lecturers, including external industry professionals, must now complete a two-step demo lecture as part of recruitment and evaluation. In addition, the university launched a structured orientation session and a mentoring programme to strengthen teaching quality and support ongoing didactic development. After reviewing these measures, the experts conclude that the recommendation has been fully implemented.

Initially, the experts recommended improvements to both the Learning Management System (LMS) and the Performance Management System (PMS). The LMS should enable students to reliably track their own attendance, while the PMS should allow off-campus access and notify students when exam results are published. Additionally, all relevant data should be consolidated in a single location. The university reported that the E-Support Department is actively working on expanding PMS accessibility. A demo version that functions outside

the university network is already available, and a full upgrade that will enable remote access to grades is planned for completion by December. While welcoming these measures, the experts note that they are not yet fully implemented and several issues remain unaddressed. For example, the university did not respond to the issue of students being unable to view their attendance records. For these reasons, the experts conclude that the recommendation has not yet been fulfilled.

Criterion fulfilled with recommendations.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

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

Preliminary assessment and analysis of the experts:
The experts confirm that the module descriptions for all five programmes contain most of the necessary information, including the course name and code, the person responsible, the intended learning outcomes, module content, recommended reading, credit points awarded, examination methods, and how the module grade is calculated. Occasionally, there is also information about prerequisites, but, as described in Chapter 1.3, the audit discussions reveal that there are actually more prerequisites that are not detailed in the module descriptions. Furthermore, the experts are missing information about examination requirements and the student workload per module, ideally including hours intended for self-study. This information needs to be added to the module descriptions.

As mentioned in Chapter 1.3, the experts also learn from the audit that the module descriptions do not always accurately reflect the modules' actual content and intended learning outcomes. They also note that some modules have different titles across the documents, such as Operating Systems and Network Security in the bachelor’s programme Information Security. Furthermore, a variety of module descriptions are missing from all five programmes entirely. These include all internships and various electives, as well as some mandatory modules, such as Process System Design in the Process Automation Engineering

programme, Computer Networks in the Computer Engineering programme, and Introduction to Cryptography in the Information Security programme. For these reasons, the experts urge that module descriptions be made available for all modules, and that these descriptions include all necessary information as mentioned above, while ensuring that they are accurate and consistent with each other.

Students confirm during discussions that information about courses is always available online, and that details concerning examinations and course content are provided at the beginning of each course by teaching staff.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

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

Preliminary assessment and analysis of the experts:
The experts confirm that students on the five programmes will receive a diploma or certificate and a diploma supplement upon graduation. However, on closer inspection, the Diploma Supplement appears to be more akin to a transcript of records, as it only contains the basic data (student's name, degree and programme title), which is also stated on the diploma, as well as a list of the completed modules and the grades for each one. However, there is no explanation of the grading system or how the final grade is calculated. Additionally, the Diploma Supplement lacks information on students' qualification profiles (i.e. the learning outcomes achieved) and on the classification of the programme within Azerbaijan's education system. Furthermore, it does not contain the statistical data set out in the ECTS Users' Guide that would provide a context for the student's final grade within the cohort. The Diploma Supplement therefore needs to be supplemented with the above-mentioned elements.

Criterion 4.3 Relevant Rules

Evidence:

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

Preliminary assessment and analysis of the experts:

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

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

Initially, the experts found that the module descriptions were incomplete, inconsistent and contained various errors. The university reported that all module descriptions had been comprehensively reviewed, corrected and updated, and provided revised documentation. After examining the revised module descriptions, the experts concluded that the requirement has been fulfilled. They note clear improvements and consider the documentation to be complete and reliable. However, they encourage the university to continue checking for accuracy and consistency in future, as minor inconsistencies in naming, numbering and presentation of prerequisites still occasionally occur.

Regarding the Diploma Supplement, BHOS provides revised versions for all programmes under review. The experts note that they largely conform to the ASIIN criteria, as they now provide information on previously missing aspects, such as an explanation of the grading system, how the final grade is calculated, the classification of the programme within Azerbaijan's education system, and the data set out in the ECTS Users' Guide to contextualise the graduate's final grade. The experts also note the inclusion of programme objectives, but not of specific student qualification profiles (i.e. learning outcomes achieved). For this reason, the Diploma Supplement must be revised to include the programme's learning outcomes, in order to provide comprehensive information about students' qualification profiles.

Criterion partly fulfilled.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-Assessment Reports
- Academic Guidelines

- Survey Samples
- Quality Assurance Committee Policy
- Student Survey Reports
- Audit Discussions

Preliminary assessment and analysis of the experts:
The experts discuss the quality management system at Baku Higher Oil School with all stakeholders. They learn that quality management is an integral aspect of academic and institutional development at BHOS aimed at ensuring the continuous enhancement of all academic programmes. The system is built around structured feedback mechanisms, stakeholder engagement, internal evaluations, and regular monitoring processes. It reflects BHOS' commitment to aligning its educational offerings with national standards, international best practices, and the evolving needs of industry and society.

The overall responsibility for quality assurance lies with the Scientific Council, which acts as the institution's highest academic authority. All key decisions related to curriculum development, academic policy, and strategic improvements are taken in this body. Students and faculty members actively contribute to quality assurance through their participation in regular Scientific Council meetings. Feedback from students—particularly in the form of semesterly surveys — is systematically reviewed by the Council and used for programme improvements. The implementation of decisions taken during Council meetings is tracked through the institutional document circulation system, which ensures timely follow-up and transparent record-keeping.

BHOS conducts student surveys at the end of every semester to evaluate key aspects of teaching and learning, such as content quality, communication effectiveness, laboratory experience, and workload. When feedback highlights areas of concern, a formal review is initiated by the Head of Department. This may involve discussions with the concerned faculty member, observation of classroom performance, and the implementation of targeted corrective measures. In cases of persistent underperformance, BHOS reserves the right to reassign teaching responsibilities.

Beyond surveys, students are encouraged to provide feedback through multiple channels, including physical suggestion boxes placed in faculty buildings. An additional mechanism is the annual open meeting hosted by the Rector, where all students are invited to express their views candidly. This confidential session is conducted without the presence of faculty members, allowing students to raise concerns freely.

To strengthen stakeholder involvement, BHOS has established a Quality Assurance Committee, composed of 20 members representing all stakeholder groups, including academic

staff, students, and external partners. The committee meets four times a year. It serves as a platform for all stakeholders to voice their concerns and ideas and develop together measures for improvement.

Curriculum quality is maintained through a structured and cyclical review process. According to the self-assessment report, major curriculum revisions are conducted every two to five years and may involve significant restructuring, the introduction of new courses, or the integration of technological advancements. Minor updates — such as syllabus adjustments or teaching material revisions — are undertaken annually, prior to the start of each semester. The review process begins with an internal assessment of course content and teaching methods, followed by consultations with faculty members, students, industry experts, and alumni. Recommendations are evaluated by relevant internal committees and submitted to the Scientific Council for final approval. Once approved, changes are implemented in a phased manner and continuously monitored for impact and effectiveness.

To support internal benchmarking and strengthen institutional quality assurance capacity, BHOS collaborates with the UK Quality Assurance Agency for Higher Education (QAA). Through this partnership, the university benefits from international expertise in monitoring academic programmes and improving internal review mechanisms. As a result of regular monitoring and student feedback, several programmes were revised in 2023 and 2024 to better reflect employer expectations and student needs.

Each academic department at BHOS prepares an annual self-assessment report, which reviews programme performance, teaching effectiveness, and student satisfaction. These reports are reviewed by the Faculty of Engineering's Scientific Council and serve as the basis for further refinements to academic provision. Once finalised, the reports are distributed to relevant units, including dean’s offices and academic departments, for follow-up action. All faculty members receive regular training and updates on quality assurance processes to ensure that academic standards are consistently applied and continuously improved.

In the audit, students report being satisfied with the quality assurance at BHOS, which includes a welcoming and friendly atmosphere where feedback is encouraged and taken seriously, as demonstrated by the handling of the issue of inadequate external lecturers, as described in Chapter 3.1. Students confirm that surveys are carried out every semester and that feedback can be provided in person at any time. However, they state that the results of the surveys and any subsequent changes are not communicated to students. Students emphasise, though, that they observe changes based on their feedback being implemented in subsequent semesters. While the experts appreciate that feedback is welcomed and changes are implemented, they deem a closed-feedback loop necessary to ensure transparent communication with students about the survey results and what is done with the

feedback afterwards. The university can decide how to communicate the summarised and anonymous results to students, for example by email or in person in class, but students must be informed about the survey results and any remedial action intended.

Overall, however, the experts are impressed by BHOS' comprehensive, institutionalised quality management system. They welcome the regular review of all programmes and the consideration of feedback from internal and external stakeholders. They acknowledge the multiple channels established to generate feedback and are particularly impressed by the annual open meeting between the rector and students. The experts conclude that the quality management system is effective in ensuring that the quality of the programmes is upheld and continuously improved. BHOS' open and constructive feedback culture is undoubtedly one of its strengths. To complement this, however, BHOS must ensure that the feedback loop is closed.

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

The experts initially found that students were only informed about survey results when major issues arose and therefore required establishing a systematic process to communicate evaluation findings to all students. In response, the university implemented a more structured feedback loop: Survey results are now discussed in meetings with students and additionally distributed via email to ensure that every student receives the information, including those unable to attend meetings. The university notes that these procedures align with and are supported by its ISO 9001:2015 Quality Management System and ISO 10002:2018 standards. The experts conclude that the recommendation has been fully addressed and is now fulfilled.

Criterion fulfilled.

E Additional Documents

No additional documents needed.

F Comment of the Higher Education Institution (31.10.2025)

The following quotes the comment of the institution:

"**About the module documentation**

Module documentation has been revised and updated. Coherent module handbooks are shared in the official website being accessible to all students.

- Links: Process Automation Engineering https://bhos.edu.az/en/page/84/process-automation-engineering
- Information Security https://bhos.edu.az/en/page/83/information-security
- Computer Engineering https://bhos.edu.az/en/page/225/computer-engineering
- Cybersecurity https://bhos.edu.az/en/page/270/kibertehlukesizlik
- Informatics and Control in Technical Systems https://bhos.edu.az/en/page/88/informatics-and-management-in-technical-systems

About Diploma Supplement

Diploma and diploma supplement are provided according to the requirements of Ministry of Science and Education Republic of Azerbaijan. These documents prepared by ministry, but distributed by BHOS to the graduates. Additionally, BHOS provides additional diploma supplement which includes information on students' qualification profiles (i.e. the learning outcomes achieved) and on the classification of the programme within Azerbaijan's education system together with the reference letter upon the graduation. This additional diploma supplement is prepared by institution itself according to the order of Ministry of Science and Education Republic of Azerbaijan which is based on Bologna system requirements.

The reference letter and additional diploma supplements were provided to the accreditation team by email on 28.07.2025.

The diploma supplements are attached to the email again.

About program review

Taking into account the feedbacks form the expert team during the visit to BHOS, it was decided to conduct the annual review of the programmes including a stronger focus on the learning outcomes along with the programmes' content. It was aimed that program learning outcomes cover the full range of competences and knowledge covered by modules. The

mapping of all modules within the objectives-module-matrix was prepared taking into account the updated program learning outcomes.

Updated PLOs and objectives-module-matrix is available in the folder attached to the email.

Additionally, it is mentioned that in the BSc in Information Security program Physics and other sciences are missing, however these basic-science requirements are fulfilled by design through integrated delivery across the curriculum: mathematical foundations, physical/signal-layer principles in telecommunications and computer networks, digital systems and computer architecture, and information/cryptography theory are explicitly embedded in relevant modules and assessed through laboratories, projects, and the capstone diploma defence using rubrics. Accordingly, the programme achieves the required learning outcomes at the outcome level, even though the curriculum does not label a separate course as “Physics.”

Our programme assures these basic-science outcomes at the level of learning outcomes, not by prescribing standalone course titles. Given the applied, computing-centred profile of Information Security, the relevant scientific foundations signal and channel behaviour, digital systems principles, and quantitative modelling are delivered in an integrated manner within domain courses and are assessed through laboratories, projects, and examinations.

Information Security is a computing-centric engineering discipline in which the “core sciences” most relevant to competence are physical and signal-layer principles for communications, digital systems and computer architecture, and mathematical and statistical modelling. Teaching these in context—inside Telecommunications, Networking, and Computer Architecture—allows students to connect scientific principles directly to secure system design and operation, and enables constructive alignment with the programme’s PLOs and assessments.

IS303 — Introduction to Telecommunications

Transmission media (copper, fibre, radio), modulation and signalling, multiplexing, spectrum management, channel models, SNR/attenuation, and the OSI/stack view are taught and practised in labs or simulation.

IS207 — Networking Fundamentals

Wireless PHY/MAC behaviour, signal strength and interference, and their impact on secure design and operations are addressed alongside IP routing, VLANs, IPv6, and WLAN security.

IS202 — Computer Architecture

Digital logic and number systems, ALU and control, memory hierarchy, I/O, timing/synchronisation, and system-level performance link electronics/physics concepts (delay, power/heat, signal levels) to secure systems engineering.

Mathematics sequence — MATH201/202/301/303

Calculus, probability and statistics, discrete mathematics, and differential equations provide the quantitative basis for modelling dynamic systems, signal behaviour, error and uncertainty, and risk likelihood–impact estimation.

About academic staff

Recently, 14 new teaching staff, 4 of them with PhD, were recruited and involved into teaching of discussed programs, from 2025-2026th academic year.

About teaching load

According to the report, the standard teaching load for a full-time academic is 620 hours per academic year, equating to approximately 25 hours per week over 24 weeks. And experts mentioned that in some cases, the annual teaching load in BHOS can reach up to 1,000 hours.

However, we would like to clarify that, according to Clause 2.4 of the Decision No. KQ-12 of the Collegium of the Ministry of Science and Education of the Republic of Azerbaijan, academic staff may be assigned a teaching load of up to 1.5 staff units based on the decision of the head of the educational institution.

Under this regulation, a full-time (1.0 staff unit) faculty member may have a teaching load of 620 hours per academic year, while a 1.5 staff unit corresponds to a load of 930 hours. Furthermore, the same clause stipulates that faculty members may, on a voluntary basis, teach up to an additional 250 hours within the hourly payment framework.

Therefore, the current teaching loads assigned to academic staff are fully compliant with the Decision No. KQ-12 of the Collegium of the Ministry of Science and Education of the Republic of Azerbaijan and are determined within the limits established by the applicable legal framework. The working hours assigned additionally to the one staff unit I done only on voluntarily basis and those academic staff receive additional payment for the load.

The teaching load assigned to the academic staff includes the non-auditorium hours as well.

About lecturers' didactical skills

Taking into account the feedback from students regarding insufficient didactical skills among some lecturers, a set of measures has been established and implemented starting from the second semester of the 2024–2025 academic year. All employed lecturers, including external ones, are now required to undergo a two-step demo lecture process as part of the recruitment and evaluation procedure. Additionally, starting from the same semester, an orientation session and a mentoring program for lecturers were launched to further strengthen teaching quality. So, didactic skills and t technical knowledge of the subject of instructor's are properly checked.

All lecturers, including external teaching staff, also participate in periodic training sessions focused on pedagogy and student-centered learning. The next training session on didactical skills for all academic staff is scheduled for December 2025.

Regarding the concern that, in some cases, students had to complete courses with lecturers lacking sufficient competence due to the difficulty of arranging replacements at short notice, the following should be noted. The outcomes of regular lesson auditing are used to make informed decisions on whether to continue or terminate a lecturer's contract. While there have been a few cases where termination was deemed necessary, in some instances, considering the lecturer's subject knowledge and overall academic background, the decision was made to retain the lecturer and involve them in targeted training programs to enhance their didactical competences. This approach has proven effective, as subsequent student surveys have shown significant improvement in teaching quality and overall satisfaction.

About feedback loops

BHOS ensures that all feedback loops within its programs are fully implemented and operational. Feedback is collected, analyzed, and discussed in meetings with students, and starting from the 2024–2025 academic year, 2nd semester**,** findings are also shared via email to ensure that all students are informed, as not all students could attend the meetings. Email records can be provided if necessary. The effectiveness of these mechanisms is further confirmed by ISO 9001:2015 Quality Management System and ISO 10002:2018 Customer Satisfaction Management System certifications, both awarded by TÜV Austria Azerbaijan, which verify that robust processes are in place to monitor and continuously improve program quality and student satisfaction.

ISO certificates are attached to the email.

About the research capacity at master's level

The observation regarding limited research activity at the master's level has been carefully considered. In reality, BHOS ensures that research is an essential component of all master's programs through curriculum design, supervision practices, and institutional initiatives.

All master's students are engaged in research from the beginning of their studies, working on applied and scientific projects under the research-active faculty members. Departments assign a significant proportion of thesis supervisors from industry, which strengthens the practical orientation of research projects. The teaching load regulation at BHOS ensures that faculty members have sufficient time for research and supervision. Research supervision and project activities are formally included in workload planning, maintaining an appropriate balance between teaching and research duties.

BHOS also organizes an annual International Scientific Conference, where master's students are strongly encouraged and highly motivated to present their research findings.

About laboratory safety

It is mentioned in the report that laboratory safety requires a more comprehensive conformity review against international standards. In reality, Baku Higher Oil School ensures laboratory safety through a structured procedure aligned with ISO 45001. The procedure includes regular monitoring in laboratories of physical, chemical, and biological factors in the working environment such as dust, gases, noise, lighting, and vibration—using national (AzeStandart) and international (ISO, NIOSH, OSHA) methods. Results are documented, compared with legal limits, and corrective actions are implemented when necessary (e.g., improved ventilation, PPE use, or adjusted work schedules). All measurements, risk assessments, and follow-up actions are recorded within the ISO-based Occupational Health and Safety Management System to ensure continuous compliance and effective risk control in all laboratories. ISO 45001:2018 – Occupational Health and Safety Management System certification is awarded to Baku Higher Oil School (BHOS) by TÜV Austria Azerbaijan in October 2025, verifies the university's compliance with international standards for health and safety.

The certificate is attached to the email.

About electives

During the meeting with the expert team, this matter was discussed in detail and the comment regarding the selection process of elective courses has been taken into account. For the 2025–2026 academic year, surveys were conducted among students to gather their 6

preferences regarding elective course offerings. Based on the survey results, the most requested courses were identified and approved as electives.

Furthermore, as previously mentioned, the increased number of academic staff has made it possible to expand the range of elective courses available to students, thereby enhancing flexibility and student choice within the curriculum.

About examination

According to national legislation, students at BHOS are allowed to apply for resit examinations in up to four subjects (not two as mentioned in the report earlier) per academic year, with a maximum of two subjects per semester. This regulation fully complies with the standards set by the Ministry of Science and Education of the Republic of Azerbaijan.

To ensure students are well-prepared for examinations, BHOS provides a dedicated five working days (one week) of study period before the end of each semester, allowing students to focus on revision and preparation. Following the examination session, according to the legislation a break of two weeks is provided before the start of the new semester.

Regarding the second marking of examinations, due to the limited number of academic staff, it is not always feasible to apply this practice systematically. However, whenever possible, second marking is carried out to ensure fairness and consistency. In cases where full second marking cannot be implemented, a sample of four randomly selected exam papers is reviewed by the program coordinator, who evaluates them based on the grading rubrics prepared by the main instructor. This approach ensures transparency, objectivity, and alignment with the established assessment criteria.

About PMS

PMS system stands for result announcement. E-support department is actively working on expanding system accessibility. The demo version working outside is already available. by December of this year, the system will be upgraded to allow students to access it remotely and review their grades from outside the university network.

About course materials

We like to clarify that different digital platforms are used for distinct purposes. Outlook is primarily used for official correspondence and announcements, through which students are regularly informed about academic matters. Microsoft Teams serves as a platform for conducting online meetings. However, all course-related materials including syllabuses, lecture notes, and other learning materials are systematically uploaded to the Learning Management System (LMS). The LMS functions as the central platform for academic content and is fully accessible to all students at any time.

About research

It is correctly noted in the report that sabbaticals are not a common practice at Baku Higher Oil School. However, this reflects the broader national context, as sabbatical leave is generally not established within the higher education system of Azerbaijan. According to current legislation, research leave is formally available only to doctoral students.

Academic staff who wish to conduct research activities are encouraged to do so in parallel with their regular institutional duties. In cases where full-time staff members intend to engage in research activities outside the university during working hours, official permission must be granted through an internal order.

At present, five academic staff members at BHOS hold such permissions, enabling them to conduct research activities at external organizations within official working hours. This demonstrates that BHOS actively supports and facilitates research engagement among its academic staff, within the framework of national regulations.

About Huwai ICT Academy

Activities of the Huawei ICT Academy in the 2024/2025 Academic Year

Within the framework of the Huawei ICT Academy operating at Baku Higher Oil School (BHOS) during the 2024/2025 academic year, a series of professional development courses — “IoT and Applications”, “Artificial Intelligence (AI)”, and “5G Technologies” — were organized for the faculty members of the Information Technologies Department by representatives of Huawei Company.

As a result of these trainings, five faculty members successfully passed the required examinations and were awarded the Huawei ICT Academy “Instructor” certification. Following this, the certified instructors conducted the “IoT and Applications” course for fourth-year students of the Process Automation Engineering program. After completing the course, several students obtained vouchers, participated in the international certification exams, and were awarded Huawei international certificates.

In the same academic year, within the framework of the Huawei ICT Academy, BHOS students took part in the “Seeds for the Future” international program. Zahid Abdullayev, a fourth-year student of the Process Automation Engineering program, became the winner of this prestigious program and represented Azerbaijan at the international competition held in China in July 2024.

Additionally, in 2024, with the support of Huawei, the “TransitHack” Hackathon was organized at Baku Higher Oil School within the framework of the Huawei ICT Academy. The

event was aimed at promoting innovative solutions in the fields of transportation and smart city technologies.

About internationalization

BHOS would like to provide the following clarifications and updates regarding student and staff mobility:

In line with the Internationalization Policy and Strategy for 2023–2027, the promotion of international student and staff mobility remains a central institutional priority. BHOS currently maintains academic exchange agreements with nearly 40 universities across Europe, Asia, Africa, and Central Asia, including institutions in Germany, Spain, Portugal, Italy, Türkiye, Czech Republic, Serbia, China, Romania, Bulgaria, Poland, Kazakhstan, Uzbekistan, and several African countries. These partnerships support both student and academic staff mobility within the framework of Erasmus+ and other international programs. In recent years, BHOS has expanded its partnership portfolio to include new regions such as Africa and Central Asia, thereby increasing opportunities for outgoing and incoming mobility.

To correct that between the academic years 2020 and 2025, a total of 77 BHOS students participated in full-time exchange programs abroad, while an additional 20 students joined short-term summer school programs organized by the China University of Petroleum. During the same period, BHOS hosted 41 incoming exchange students, with a steady increase from 1 in 2020–21 to 13 in 2024–25.

As part of its internationalization strategy, BHOS adopted a strategy to attract international students, initially setting a goal of reaching 35 international students annually by the 2026/2027 academic year. This objective was surpassed ahead of schedule, as BHOS admitted 75 international students in the 2025/2026 academic year. The total number of international students has therefore grown from 11 in 2020 to 42 in 2024 and 75 in 2025.

BHOS applies the European Credit Transfer System (ECTS) to ensure academic compatibility and the recognition of externally acquired credits. Academic achievements obtained at other accredited national and international institutions are recognized in accordance with Resolution No. 348 of the Cabinet of Ministers of the Republic of Azerbaijan, facilitating both credit transfer and academic continuity for mobile students.

Students participating in exchange programs select their courses in consultation with their academic departments and the dean’s office. The selected courses are recorded in a Learning Agreement and pre-approved before the mobility period. Upon their return, the academic transcripts from host institutions are reviewed and the corresponding credits are recognized and integrated into the students’ academic records.

BHOS notes the students' feedback regarding the availability of mobility opportunities. While it is acknowledged that certain areas, such as Cybersecurity, offer limited options due to their specialized nature, the university continues to expand its partnerships to provide a wider range of destinations and study programs. Overall, student feedback confirms satisfaction with the existing procedures, support services, and the availability of scholarships for mobility.

BHOS welcomes the experts' acknowledgment of the institution's continuous progress in international mobility and confirms that transparent and effective regulations are in place for the recognition of qualifications.

Regarding staff mobility, BHOS acknowledges the statement:

A small number of staff members do participate in international exchanges through the Erasmus Mundus programme, visiting universities in countries such as Bulgaria and Greece. However, these visits are typically short, lasting about one week.

In addition, BHOS would like to note that between 2020 and 2025, a total of 103 academic staff members including administrative staff who coordinate the mentioned programs and staff members from different department who are involved in teaching process of mentioned programs participated in Erasmus+ exchange programs, demonstrating significant engagement in international mobility activities."

G Summary: Expert recommendations (20.11.2025)

Taking into account the additional information and the comments given by Baku Higher Oil School the peers summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Process Automation Engineering	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ba Information Security	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ba Computer Engineering	With requirements for one year	30.09.2031	/	/
Ma Informatics and Control in Technical Systems	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ma Cybersecurity	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 programme's intended learning outcomes in order to provide comprehensive information about the graduate's qualification profile.

Recommendations

For all degree programmes

E 1. (ASIIN 3.1, 3.3) It is recommended that a larger budget and further support measures be allocated to academic exchange and other research activities.

E 2. (ASIIN 3.3) It is recommended that the budget for advanced lab projects is increased.

E 3. (ASIIN 3.2) It is recommended that the Learning Management System be upgraded to allow students to view their own attendance records and that the Performance Management System be enhanced to provide off-campus access and automatic notifications when exam results are published.

H Comment of the Technical Committees (02.12.2025)

Technical Committee 02 – Electrical Engineering/Information Technology (02.12.2025)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedure and follows the vote of the experts without any changes.

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

The Technical Committee deems that the intended learning outcomes of the degree programmes do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 02 – Electrical Engineering/Information Technology.

The Technical Committee 02 – Electrical Engineering/Information Technology recommends the award of the seals as follows:

Degree Programme	**ASIIN Seal**	**Accredited by German Engineers**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Process Automation Engineering	With requirements for one year	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ba Information Security	With requirements for one year	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ba Computer Engineering	With requirements for one year	/	30.09.2031	/	/
Ma Informatics and Control in Technical Systems	With requirements for one year	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031

Technical Committee 04 – Informatics/Computer Science (28.11.2025)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedure and follows the vote of the experts without any changes.

The Technical Committee 04 – Informatics/Computer Science recommends the award of the seals as follows:

Degree Programme	**ASIIN Seal**	**Accredited by German Engineers**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Information Security	With requirements for one year	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ba Computer Engineering	With requirements for one year	/	30.09.2031	/	/
Ma Informatics and Control in Technical Systems	With requirements for one year	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ma Cybersecurity	With requirements for one year	/	30.09.2031	/	/

Technical Committee 06 – Engineering and Management, Economics (10.11.2025)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedure and follows the vote of the experts without any changes.

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

The Technical Committee deems that the intended learning outcomes of the degree programmes do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 06 – Engineering and Management, Economics.

The Technical Committee 06 – Engineering and Management, Economics recommends the award of the seals as follows:

Degree Programme	**ASIIN Seal**	**Accredited by German Engineers**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Information Security	With requirements for one year	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ma Cybersecurity	With requirements for one year	/	30.09.2031	/	/

I Decision of the Accreditation Commission (12.12.2025)

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

The commission discusses the procedure and follows the vote of the experts without any changes.

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

The Accreditation Commission deems that the intended learning outcomes of the degree programmes do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committees 02 and 06.

The Accreditation Commission decides to award the following seals:

Degree Programme	**ASIIN Seal**	**Accredited by German Engineers**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation***
Ba Process Automation Engineering	With requirements for one year	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ba Information Security	With requirements for one year	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ba Computer Engineering	With requirements for one year	With requirements for one year	30.09.2031	/	/
Ma Informatics and Control in Technical Systems	With requirements for one year	With requirements for one year	30.09.2031	EUR-ACE®	30.09.2031
Ma Cybersecurity	With requirements for one year	/	30.09.2031	/	/

*Subject to the approval of the ENAEE Administrative Council

Requirements

For all degree programmes

A 1. (ASIIN 4.2) Ensure that the Diploma Supplement includes the programme's intended learning outcomes in order to provide comprehensive information about the graduate's qualification profile.

Recommendations

For all degree programmes

E 1. (ASIIN 3.1, 3.3) It is recommended that a larger budget and further support measures be allocated to academic exchange and other research activities.

E 2. (ASIIN 3.3) It is recommended that the budget for advanced lab projects is increased.

E 3. (ASIIN 3.2) It is recommended that the Learning Management System be upgraded to allow students to view their own attendance records and that the Performance Management System be enhanced to provide off-campus access and automatic notifications when exam results are published.

Appendix: Programme Learning Outcomes and Curricula

According to the website, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor's degree programme Process Automation Engineering:

"PLO1. Apply core mathematics, basic sciences and computing knowledge, together with fundamental engineering principles, to understand and model process automation systems.

PLO2. Formulate, analyze and solve complex engineering problems using appropriate analytical, computational and experimental methods while evaluating relevant technical, safety, economic, and environmental constraints.

PLO3. Design, simulate, and validate automation systems, control strategies and related artefacts that meet functional, safety, environmental and economic requirements, and assess sustainability, societal impact, and adherence to regulatory standards.

PLO4. Plan and carry out experimental and simulation investigations, perform literature searches, apply relevant standards and safety regulations, and critically evaluate data to draw evidence-based conclusions.

PLO5. Implement, operate, and demonstrate practical competence with programming, instrumentation, control systems, robotics, and industrial IoT devices.

PLO6. Gather and synthesize technical, economic and ethical information to make informed engineering judgements and plan, execute, and manage engineering projects incorporating emerging automation technologies.

PLO7. Communicate technical information clearly in English and Azerbaijani, demonstrate knowledge of the history of Azerbaijan, and work effectively as members and leaders of multidisciplinary and multicultures teams in industrial and professional environments, integrate contextual knowledge, ethical considerations and cross-cultures awareness.

PLO8. Recognize the need for continuing professional development and independently update knowledge and skills to remain current with evolving technologies."

The following **curriculum** is presented:

Year 1, 1st term			
Code / Kod	**Course / Fənn**	**Hours / Saatlar**	**ECTS / Kredit**
ENG 101	English 1/ İngilis dili 1	0 + 18 + 0	20
COMP 105	Application of ICT in Engineering 1 / İKT-nin mühəndislikdə tətbiqi 1	4 + 0 + 4	10
	Total for the term / Cəmi:		**30**

Year 1, 2nd term			
Code / Kod	**Course / Fənn**	**Hours / Saatlar**	**ECTS / Kredit**
ENG 102	English 2 / İngilis dili 2	0 + 18 + 0	20
COMP 106	Application of ICT in Engineering 2 (Python programming) / İKT-nin mühəndislikdə tətbiqi 2	3 + 0 + 5	10
	Total for the term / Cəmi:		**30**

Year 2, 3rd term			
Code / Kod	**Course / Fənn**	**Hours / Saatlar**	**ECTS / Kredit**
MATH 201	Calculus / Riyazi analiz	3 + 2 + 0	5
PHYS 291	Physics 1 / Fizika 1	2 + 1 + 2	6
PAE 203	Programming and Computer Applications 1 / Proqramlaşdırma və kompüterlərin tətbiqi 1	3 + 0 + 2	6
PAE 207	Introduction to Process Automation / Proseslərin avtomatlaşdırılmasına giriş	3 + 0 + 1	4
HIST 202	History of Azerbaijan / Azərbaycan tarixi	3 + 1 + 0	5
PAE 205	Electrical Safety / Elektrik təhlükəsizlik	1 + 0 + 1	4
	Total for the term / Cəmi:		**30**

Year 2, 4th term			
Code / Kod	**Course / Fənn**	**Hours / Saatlar**	**ECTS / Kredit**
MATH 204	Introduction to Linear Algebra / Xətti cəbrə giriş	2 + 2 + 0	4
PHYS 202	Physics 2 / Fizika 2	2 + 1 + 2	6
PAE 242	Programming and Computer Applications 2 (OOP) / Proqramlaşdırma və kompüterlərin tətbiqi 2 (OOP)	2 + 0 + 2	5
PAE 246	Electrical Engineering 1 / Elektrik texnikasi 1	2 + 0 + 2	5
AZL 211	Business and academic communication in Azerbaijani language / Azərbaycan dilində işgüzar və akademik kommunikasiya	2 + 1 + 0	4
PAE 290	Internship 1 / İstehsalat təcrübəsi 1		6
	Total for the term / Cəmi:		**30**

Year 3, 5th term			
Code / Kod	**Course / Fənn**	**Hours / Saatlar**	**ECTS / Kredit**
MATH 353	Differential Equations / Diferensial tənliklər	2 + 2 + 0	6
PAE 351	Electrical Engineering 2 / Elektrik texnikası 2	2 + 1 + 2	6
PAE 353	Electrical Measurements / Elektrik ölçmələr	2 + 0 + 2	6
PAE 355	Engineering Mechanics / Mühəndis mexanikası	2 + 0 + 2	6
PAE 357	Data and Signal Processing / Verilənlərin və siqnalların emalı	2 + 0 + 2	6
	Total for the term / Cəmi:		**30**

Year 3, 6th term			
Code / Kod	**Course / Fənn**	**Hours / Saatlar**	**ECTS / Kredit**
MATH 362	Probability & Statistics / Ehtimal nəzəriyyəsi və statstika	2 + 2 + 0	5
PAE 382	Control Theory 1 / İdarəetmə nəzəriyyəsi 1	3 + 0 + 2	6
PAE 384	Digital Electronics / Rəqəmli elektronika	2 + 0 + 2	5
PAE 386	Analogue Electronics / Analoq elektronika	2 + 0 + 2	5
PAE 388	Engineering Economics / Mühəndislik İqtisadiyyatı	2 + 1 + 0	3
PAE 390	Internship 2 / İstehsalat təcrübəsi 2		6
	Total for the term / Cəmi:		**30**

Year 4, 7th term			
Code / Kod	**Course / Fənn**	**Hours / Saatlar**	**ECTS / Kredit**
PAE 421	Control Theory 2 / İdarəetmə nəzəriyyəsi 2	3 + 0 + 2	7
PAE 423	Microprocessors and Microcontrollers / Mikroprosessorlar və mikrokontrolerlər	2 + 0 + 2	5
PAE 425	Image processing / Təsvirlərin emalı	3 + 0 + 2	6
PAE 427	Electrical Machines / Elektrik maşınlar	3 + 0 + 2	6
	Electives 1 / Seçmə fənlər 1 - PAE 429: Sensor Technology / Sensor texnologiyası - PAE 431: IoT Fundamentals / Əşyaların İnternetinin (IoT) əsasları - PAE 433: Elements and Mechanisms in mechatronic systems / Mexatronik sistemlərdə elementlər və mexanizmlər	3 + 0 + 2	6
	Total for the term / Cəmi:		**30**

Year 4, 8th term			
Code / Kod	**Course / Fənn**	**Hours / Saatlar**	**ECTS / Kredit**
PAE 422	System Identification / Sistemlərin identifikasiyası	3 + 0 + 2	5
PAE 424	Programmable Logic Controllers (PLC) / Proqramlaşdırılan məntiqi kontrollerlər	2 + 0 + 2	5
PAE 426	Process Control / Proseslərin idarə olunması	3 + 0 + 3	6
PAE 428	Numerical Methods in Engineering / Mühəndislikdə ədədi üsullar	2 + 0 + 2	4
	Electives 2 / Seçmə fənlər 2 - PAE 430: Control of Electrical drive systems / Elektrik ötürücü sistemlərin idarə olunması - PAE 432: System drives in Mechatronics / Mexatronikada sistem ötürücüləri. - PAE 434: Process Simulation / Proseslərin simulyasiyası - BBA 484: Entrepreneurship Development / Sahibkarlığın inkişafı	2 + 0 + 2	4
PAE 490	Internship 3 / İstehsalat təcrübəsi 3		6
	Total for the term / Cəmi:		**30**

Year 5, 9th term			
Code / Kod	**Course / Fənn**	**Hours / Saatlar**	**ECTS / Kredit**
PAE 521	Introduction to Data Science and Machine Learning / Data elmi və maşınla öyrənməsinə giriş	2 + 0 + 2	6
PAE 523	Digital Signal Processing / Rəqəmli siqnalların emalı	2 + 0 + 2	6
PAE 525	Supervisory Control and Data Acquisition (SCADA) / Supervayzerli idarəetmə və verilənlərin toplanması	2 + 0 + 2	6
PAE 527	Process System Design (project) / Proses sistemlərin dizaynı (layihə)	2 + 0 + 2	6
PAE xxx	**Electives 3 / Seçmə fənlər 3** - PAE 529: CAD in electrical Engineering / Elektrik mühəndisliyində CAD sistemləri - PAE 531: Technical Documentation for Automation Engineering / Avtomatlaşdırma mühəndisliyində texniki sənədləşmə - PAE 533: Robotics / Robototexnika - PAE 535: Design of Mechatronics Systems (project) / Mexatronika sistemlərinin dizaynı (layihə) - PAE 537: IoT Security / IoT Təhlükəsizliyi - PAE 539: Environmental sustainability / Ekoloji dayanıqlıq	2 + 0 + 2	6
	Total for the term / Cəmi:		**30**

Year 5, 10th term			
Code / Kod	**Course / Fənn**	**Hours / Saatlar**	**ECTS / Kredit**
MACD 502	Safety, Health and Civil Defense / Təhlükəsizlik, sağlamlıq və mülki müdafiə	1 + 1 + 0	5
PAE 522	Intelligent Systems and Sensors / Ağıllı Sistemlər və Sensorlar	2 + 0 + 2	6
ECON 502	Project Management / Layihələrin idarə olunması	3 + 2 + 0	9
PAE 599	Bachelor Thesis / Buraxılış işi		10
	Total for the term / Cəmi:		**30**

According to the website, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor's degree programme Information Security:

"By the end of the "Information Security" BSc program, graduates will be able to:

PLO1 – Integrate and apply core principles of information security, computer science, and applied mathematics for the design and protection of secure digital systems.

PLO2 – Model and analyze security threats, vulnerabilities, and risks using analytical and quantitative methods with prioritization based on impact and likelihood.

PLO3 – Design and justify secure system architectures and cryptographic mechanisms that satisfy defined functional, performance, and regulatory requirements.

PLO4 – Plan and execute digital investigations and forensic analyses with preservation of evidence, interpretation of findings, and prepare verifiable reports.

PLO5 – Apply and automate information security operations, incident response, system maintenance, and secure cloud or DevSecOps practices through modern tools and platforms.

PLO6 – Evaluate security-related decisions in accordance with ethical standards, legal and regulatory requirements considering sustainability and societal impact.

PLO7 – Communicate technical information clearly in English and Azerbaijani, demonstrate knowledge of the history of Azerbaijan, and work effectively as members or leaders of multidisciplinary and multicultural teams in industrial and professional environments, integrating contextual knowledge, ethical considerations, and cross-cultural awareness.

PLO8 – Engage in continuous professional development through independent learning, research, and certification activities to adapt to emerging technologies and evolving security challenges."

The following **curriculum** is presented:

YEAR 1 (Foundation), TERM 1- Fall /Payız			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
ENG 101	English 1/ İngilis dili 1	0 + 20 + 0	20
COMP 101	Application of ICT in Engineering 1 – İKT-nin mühəndislikdə tətbiqi 1	4 + 0 + 4	10
		Total/Cəmi	**30**

YEAR 1 (Foundation), TERM 2- Spring /Yaz			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
ENG 102	English 2 /İngilis dili 2	0 + 20 + 0	20
COMP 102	Application of ICT in Engineering 2 (Python programming) / İKT-nin mühəndislikdə tətbiqi 2	3 + 0 + 5	10
		Total /Cəmi	**30**

YEAR 2, TERM 3- Fall /Payız			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MATH 201	Calculus /Riyazi analiz	3 + 2 + 0	6
IS 201	Information & Cybersecurity Fundamentals / İnformasiya və Kibertəhlükəsizliyin Əsasları	2 + 1 + 1	5
IS 203	Programming language/ Proqramlaşdırma dili	2 + 0 + 2	5
IS 205	Operating Systems / Əməliyyat sistemləri	2 +0+ 2	5
IS 207	Networking Fundamentals / Şəbəkənin əsasları	2 + 0 + 2	5
AZL 211	Azerbaijani Language and Art of Speech /Azərbaycan dili və nitq mədəniyyəti	1 + 2 + 0	4
		Total /Cəmi	**30**

YEAR 2, TERM 4 – Spring/Yaz			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MATH 202	Probability and Statistics / Ehtimal nəzəriyyəsi və statistika	2 + 2 + 0	5
HIST 202	History of Azerbaijan /Azərbaycan tarixi	3 + 2 + 0	5
IS 202	Computer Architecture / Kompüter arxitekturası	2 + 0 + 1	4
IS 204	Introduction to Cryptography /Kriptoqrafiyaya giriş	2 + 0 + 2	5
IS 206	Object-oriented Programming /Obyekt yönümlü proqramlaşdırma	2 + 0 + 2	5
	Internship 1 (4 weeks) / Təcrübə 1		6
		Total /Cəmi	**30**

YEAR 3, TERM 5 - Fall /Payız			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MATH 301	Fundamentals of Discrete Mathematics /Diskret riyaziyyatın əsasları	2 + 2 + 0	6
MATH 303	Differential Equations / Diferensial tənliklər	2 + 2 + 0	6
IS 301	Systems Analysis and Design / Sistemlərin analizi və dizayn	2 + 0 + 2	6
IS 303	Introduction to Telecommunication /Telekommunikasiyaya giriş	2 + 0 + 2	6
IS 305	Database Fundamentals / Verilənlər bazasının əsasları	2 + 0 + 2	6
		Total /Cəmi	**30**

YEAR 3, TERM 6 – Spring/Yaz			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MATH 302	Linear Algebra / Xətti cəbr	2 + 2 + 0	5
IS 302	Web programming / Veb proqramlaşdırma	2 + 0 + 2	5
IS 304	Cloud Computing / Bulud texnologiyası	2 + 0 + 2	5
IS 306	Network Security /Şəbəkə təhlükəsizliyi	2 + 0 + 2	5
IS 308	Cybersecurity Risk Management / Kibertəhlükəsizlik risklərinin idarə edilməsi	2 + 2 + 0	4
	Internship 2 (4 weeks) / Təcrübə 2		6
		Total /Cəmi	**30**

YEAR 4, TERM 7- Fall /Payız			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
IS 401	Ethical Hacking & Defence / Etik hakerlik və müdafiə	2 + 0 + 2	5
IS 403	IT Security Management / IT təhlükəsizliyin idarə edilməsi	2 + 0 + 2	5
IS 405	Mobile programming / Mobil proqramlaşdırılma	2 + 0 + 2	5

IS 407	Software Engineering / Proqram mühəndisliyi	2 + 0 + 2	5
IS 409	Machine Learning Essentials / Maşınla öyrətmənin əsasları	2 + 0 + 2	5
IS xxx	Elective (Block 1)/ Seçmə fənn (Blok 1)	2 + 0 + 2	5
		Total /Cəmi	**30**

ELECTIVE COURSES - Block 1 /Seçmə fənlər - Blok 1				
#	**Course ID**	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
1.	IS 411	Realiability Theory / Etibarlılıq nəzəriyyəsi	2 + 0 + 2	5
2.	IS 413	Software Fault Tollerance / Proqram təminatının dayanıqlığı	2 + 0 + 2	5
3.	IS 415	Software Foundations for Cybersecurity / Kibertəhlükəsizlik üçün proqram təminatının əsasları	2 + 0 + 2	5
5.	IS 417	System Programming / Sistem proqramlaşdırılması	2 + 0 + 2	5
6.	IS 419	System Administration / Sistem inzibatçılığı	2 + 0 + 2	5

YEAR 4, TERM 8 – Spring/Yaz			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
IS 402	Database Administration & Security / Verilənlər bazasının inzibatçılığı və təhlükəsizliyi	2 + 0 + 2	5
IS 404	Web and Mobile Security / Veb və mobil təhlükəsizliyi	2 + 0 + 2	4
IS 406	Introduction to Malware Analysis /Zərərli proqramların analizinə giriş	2 + 0 + 2	5
IS 408	Vulnerability Assessments and Penetration Testing / Boşluqların dəyərləndirilməsi və nüfuzetmə testi	2 + 0 + 2	5
IS xxx	Elective (Block 2) / Seçmə fənn (Blok 2)	2 + 0 + 2	5
	Internship 3 (4 weeks) / Təcrübə 3		6
		Total /Cəmi	**30**

Elective Courses - Block 2 /Seçmə fənlər - Blok 2				
#	**Course ID**	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
1.	IS 410	Applied Cryptography / Tətbiqi kriptoqrafiya	2 + 0 + 2	5
2.	IS 412	Attacker Tools and Techniques / Hücum vasitələri və metodları	2 + 0 + 2	5
3.	IS 414	Fundamentals of Disaster Recovery (Backup) /Proqram təminatının bərpası mühəndisliyi	2 + 0 + 2	5
4.	IS 416	Microservices / Mikroservislər	2 + 0 + 2	5
5.	IS 418	SCADA security / SCADA təhlükəsizliyi	2 + 0 + 2	5
6.	IS 420	Attacks on Cryptosystems / Kriptosistemlərə hücumlar	2 + 0 + 2	5
7.	IS 422	DevOps /DevOps	2 + 0 + 2	5

YEAR 5, TERM 9 - Fall /Payız			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
IS 501	IoT Security / Əşyaların İnternetinin (IoT) təhlükəsizliyi	2 + 0 + 2	6
IS 503	Legal Issues in Information Security / İnformasiya təhlükəsizliyində hüquqi problemlər	2 + 2 + 0	6
IS 505	Forensic Science / Kriminalistika	2 + 0 + 2	6
IS 507	Blockchain / Blokçeyn	2 + 0 + 2	6
IS xxx	Elective (Block 3) / Seçmə fənn (Blok 3)	2 + 0 + 2	6
		Total /Cəmi	**30**

Elective Courses - Block 3 /Seçmə fənlər - Blok 3				
#	**Course ID**	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
1.	IS 509	Design and Analysis of Secure Protocols / Təhlükəsiz Protokolların dizaynı və analizi	2 + 0 + 2	6
3.	IS 511	Open Source Intelligence / Açıq mənbələrin intellekti	2 + 0 + 2	6
4.	IS 513	Cryptocurrency / Kriptovalyuta	2 + 2 + 0	6
5.	IS 515	Reverse Engineering / Tərsinə mühəndislik	2 + 0 + 2	6
6.	IS 517	Network Administration / Şəbəkə inzibatçılığı	2 + 0 + 2	6

YEAR 5, TERM 10 – Spring /Yaz			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MACD 504	Safety, Health and civil Defense / Təhlükəsizlik, sağlamlıq və mülki müdafiə	1 + 1 + 0	5
	Internship 4 (10 weeks) / Təcrübə 4		15
	Final Project /Buraxılış işi		10
		Total /Cəmi	**30**

According to the website, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor's degree programme Computer Engineering:

"By the end of the Computer Engineering program, graduates will be able to:

PLO1. Apply fundamental knowledge of mathematics, physics, electrical and electronic engineering, and computer science to analyze and solve computer engineering problems.

PLO2. Analyze and explain principles of computer organization, digital logic design, embedded systems, signals and systems, operating systems, databases, and computer networks, and evaluate their integration in complex systems, considering modern engineering challenges, emerging technologies, and real-world constraints.

PLO3. Design, implement, and evaluate software and hardware systems by applying theoretical and practical foundations of computer engineering, utilizing modern engineering tools, programming paradigms with attention to system reliability, sustainability, and societal impact.

PLO4. Apply analytical and mathematical modeling techniques for problem-solving, optimization, and simulation in computer engineering contexts, including the design, execution, and validation of experiments and simulation models.

PLO5. Conduct experiments, analyze and interpret data, and use engineering judgment to draw valid conclusions in laboratory and project environments, apply research-based methods and assess the technical, environmental, and societal implications of results.

PLO6. Communicate technical information clearly in English and Azerbaijani, demonstrate knowledge of the history of Azerbaijan, and work effectively as members or leaders of multidisciplinary and multicultural teams in industrial and professional environments, integrating contextual knowledge, ethical considerations, and cross-cultural awareness.

PLO7. Recognize and apply professional, ethical, legal, and social principles in the practice of computer engineering, assessing the environmental, economic, and societal impact of engineering solutions, promoting sustainable development, and considering ethical implications of emerging technologies.

PLO8. Demonstrate commitment to independent learning and continuous professional development in response to emerging technologies, innovations, and the evolving demands of the global engineering profession.

PLO9. Apply project management and leadership principles in engineering contexts, considering economic, environmental, and societal impacts."

The following **curriculum** is presented:

YEAR 1 (FOUNDATION), SEMESTER 1- Fall /Payız			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
ENG 101	English 1/ İngilis dili 1	0 + 20 + 0	20
COMP 101	Application of ICT in Engineering 1 – İKT-nin mühəndislikdə tətbiqi 1	4 + 0 + 4	10
		Total/Cəmi	**30**
YEAR 1 (FOUNDATION), SEMESTER 2- Spring /Yaz			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
ENG 102	English 2 /İngilis dili 2	0 + 20 + 0	20
COMP 102	Application of ICT in Engineering 2 (Python programming) / İKT-nin mühəndislikdə tətbiqi 2	3 + 0 + 5	10
		Total /Cəmi	**30**

YEAR 2, SEMESTER 3- Fall /Payız			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MATH 201	Calculus /Riyazi analiz	2 + 3 + 0	6
MATH 203	Analytic Geometry /Analitik həndəsə	2 + 2 + 0	6
MATH 205	Discrete Mathematics /Diskret riyaziyyat	2 + 2 + 0	6
CE 201	Programming Language /Proqramlaşdırma dili	2 + 0 + 4	8
AZL 211	Azerbaijani Language and Art of Speech /Azərbaycan dili və nitq mədəniyyəti	1 + 2 + 0	4
		Total /Cəmi	**30**

YEAR 2, SEMESTER 4- Spring /Yaz			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MATH 202	Differential Equations /Diferensial tənliklər	2 + 2 + 0	4
PHYS 202	Physics /Fizika	2 + 1 + 1	5
CE 202	Object-oriented programming /Obyekt yönümlü proqramlaşdırma	2 + 0 + 3	5
CE 204	Data Structures & Algorithms /Verilənlərin strukturu və alqoritmlər	2 + 0 + 3	5
HIST 202	History of Azerbaijan /Azərbaycan tarixi	3 + 2 + 0	5
	Internship 1 (4 weeks) / Təcrübə 1		6
		Total /Cəmi	**30**

YEAR 3, SEMESTER 5 – Fall /Payız			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MATH 301	Linear Algebra /Xətti cəbr	2 + 2 + 0	6
CE 301	Numerical Methods for Engineering /Mühəndislikdə ədədi üsullar	2 + 0 + 2	6
CE 303	Computer graphics/ Kompüter qrafikası	3 + 0 + 3	6
ESH 202	Electrical Safety /Elektrik təhlükəsizliyi	2 + 2 + 0	6
CE 305	Operating Systems /Əməliyyat sistemləri	2 + 0 + 2	6
		Total /Cəmi	**30**
YEAR 3, SEMESTER 6 – Spring /Yaz			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MATH 302	Probability & Statistics /Ehtimal nəzəriyyəsi və statistika	2 + 2 + 0	5
CE 302	Fundamentals of Electrical Engineering /Elektrik texnikasının əsasları	2 + 0 + 2	5
CE 304	Formal Languages and Automata /Formal dillər və avtomatlar nəzəriyyəsi	2 + 2 + 0	4
CE 306	Computer Networks /Kompüter şəbəkələri	2 + 0 + 2	5
MATH 304	Mathematical Modelling /Riyazi modelləşdirmə	2 + 2 + 0	5
	Internship 2 (4 weeks) /Təcrübə 2		6
		Total /Cəmi	**30**

YEAR 4, SEMESTER 7 – Fall /Payız			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
CE 401	Artificial Intelligence /Süni intellekt	2 + 2 + 0	5
CE 403	Database fundamentals / Verilənlər bazaların əsasları	2 + 0 + 2	5
CE 405	Introduction to Electronics /Elektronikaya giriş	2 + 0 + 2	5
CE 407	Signals and Systems /Siqnallar və sistemlər	2 + 0 + 2	5
CE 409	Digital Logic Design /Məntiq layihələndirilməsi	2 + 0 + 2	5
CE xxx	7th term Elective Course (Block 1) /Seçmə fənn 1	2 + 0 + 2	5
		Total /Cəmi	**30**
YEAR 4, SEMESTER 8 – Spring /Yaz			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
CE 402	Computer Architecture /Kompüter arxitekturası	2 + 0 + 2	5
CE 404	Digital Signal Processing /Rəqəmli siqnalların emalı	2 + 0+ 2	5
CE 406	Web & Mobile Programming /Veb və mobil proqramlaşdırma	2 + 0 + 2	5
CE 408	System Analysis and Modelling /Sistemlərin analizi və modelləşdirmə	2 + 0+ 2	4
CE xxx	8th term Elective Course (Block 2) /Seçmə fənn 2	2 + 0 + 2	5
	Internship 3 (4 weeks) /Təcrübə 3		6
		Total /Cəmi	**30**

YEAR 5, SEMESTER 9 – Fall /Payız			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
CE 501	Software Engineering /Proqram təminatı mühəndisliyi	2+ 0 + 2	5
CE 503	Embedded Systems /İnteqrasiya edilmiş sistemlər	2 + 0+ 2	5
CE 505	Robotics /Robototexnika	2 + 0 + 2	5

CE 507	Microprocessors & Microcontrollers /Mikroprosessorlar və mikrokontrollerlər	2 +0 + 2	5
ECON 501	Engineering Economics / Mühəndislik İqtisadiyyatı	2 + 2 + 0	5
CE xxx	9th term Elective Course (Block 3) /Seçmə fənn 3	2 + 0 + 2	5
		Total /Cəmi	**30**

YEAR 5, SEMESTER 10 – Spring /Yaz			
Course ID	**Course Name**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MACD 502	Fundamentals of Civil Defence and Medical Aid / Mülki müdafiənin və tibbi yardımın əsasları	1 + 1 + 0	5
	Internship 4 (10 weeks) /Təcrübə 4		15
	Final Project /Buraxılış işi		10
		Total /Cəmi	**30**

According to the website, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor's degree programme Cybersecurity:

"By the end of the "Cybersecurity" MSc program, graduates will be able to:

PLO1 – Demonstrate advanced, critical understanding of core cybersecurity domains and their scientific foundations, recognise the limits of current knowledge and track emerging directions.

PLO2 – Analyze complex socio-technical and cyber-physical systems under uncertainty using appropriate models and evidence, infer causes from data and quantify and prioritise risk.

PLO3 – Design and justify secure architectures and controls that balance security, safety, privacy, cost, performance and usability, embed secure-by-design and DevSecOps practices to deliver robust and resilient systems on modern digital and cyber-physical platforms.

PLO4 – Plan and conduct rigorous experimental or forensic investigations with reproducible methods and proper ethics, gather and interpret evidence, test hypotheses and report validated conclusions.

PLO5 – Operate, defend and assure real systems using contemporary tools and disciplined operational procedures, demonstrate effectiveness and quality against recognised frameworks and good practice.

PLO6 – Make well-reasoned, evidence-based decisions with incomplete information while considering legal, ethical, societal and economic implications, define governance and risk, develop defensible policy and compliance strategies.

PLO7 – Communicate complex technical ideas clearly (written & oral) to specialist and non-specialist audiences, prepare and publish technical and academic documentation, contribute to innovation and lead or contribute effectively in interdisciplinary and multicultural teams, to manage projects and achieve agreed outcomes

PLO8 – Sustain self-directed learning and research by critically appraising new knowledge, standards and technologies, plan professional development to close gaps and maintain growth in expertise and leadership."

The following **curriculum** is presented:

Year 1, TERM 1 (Fall) / Payız			
Course ID	**Course Name/ Fənnin adı**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
CS 101	Advanced Network Security/ Şəbəkələrin təhlükəsizliyi (yüksək səviyyədə)	3+0+2	6
CS 103	Advanced Cryptography and Data Security / Kriptoqrafiya və məlumatların təhlükəsizliyi (yüksək səviyyədə)	3+0+2	6
CS 105	Advanced Ethical Hacking / Etik xakerlik (yüksək səviyyədə)	3+0+2	6
CS 107	Incident Response / İnsidentlərə cavab	3+0+2	6
CS 109	Machine Learning / Maşınla öyrətmə	3+0+2	6
		Total / Cəmi	**30**

Year 1, TERM 2 (Spring) / Yaz			
Course ID	**Course Name/ Fənnin adı**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
CS 102	Advanced Mobile Security / Mobil təhlükəsizlik (yüksək səviyyədə)	3+0+2	6
CS 104	Cybersecurity Law, Policy, and Ethics / Kibertəhlükəsizlik hüququ, siyasəti və etikası	2+1+0	4
CS 106	Cyber Threat Intelligence / Kibertəhlükəsizlik analitikası və təhdidlərin təhlili	2+2+0	5
CS 108	Advanced IoT Security / Əşyaların internetinin təhlükəsizliyi (yüksək səviyyədə)	2+0+2	5
CS 110	Advanced Penetration Testing / Nüfuzetmə testi (yüksək səviyyədə)	2+0+2	5
CS xxx	Elective 1 / Seçmə fənn 1	2+0+2	5
		Total / Cəmi	**30**

Elective - Block 1 /Seçmə fənlər - Blok 1				
#	Course ID	Course Name/ Fənnin adı	Hours/week (Lec+Sem+Lab)	Credits ECTS
1.	CS 112	Developing safe distributed systems / Təhlükəsiz paylanmış sistemlərin yaradılması	2 +0+2	5
2.	CS 114	Cybersecurity Operations and Defense / Kibertəhlükəsizlik əməliyyatları və müdafiə	2 +0+2	5
3.	CS 116	Stenography / Stenografiya	2 +0+2	5
4.	CS 118	Biometric Systems Security / Biometrik sistemlərin təhlükəsizliyi	2 +0+2	5

Year 2, TERM 3 (Fall) / Payız			
Course ID	Course Name/ Fənnin adı	Hours/week (Lec+Sem+Lab)	Credits ECTS
CS 201	Advanced Blockchain Security / Blokçein təhlükəsizliyi (yüksək səviyyədə)	3+0+2	6
CS 203	Secure Software Development and Quality Assurance / Təhlükəsiz proqram təminatı və keyfiyyətin təminatı	3+0+2	6
CS 205	Digital Forensics /Rəgəmli kriminalistika	3+0+2	6
CS 207	Methodology of Scientific Research / Elmi tədqiqatın metodologiyası	3 +2+0	6
CS xxx	Elective 2 / Seçmə fənn 2	3 +0+2	6
		Total / Cəmi	**30**

Elective – Block 2 /Seçmə fənlər –Blok 2				
1.	CS 209	Malware Analysis / Zərərli proqramların təhlili	3 +0+2	6
2.	CS 211	Development, Security, and Operations (DevSecOps) / Hazırlanma, Təhlükəsizlik və Əməliyyatlar (DevSecOps)	3 +0+2	6
3.	CS 213	Systems Engineering Processes /Sistem Mühəndisliyi Prosesləri	3 +0+2	6
4.	CS 215	Advanced Database Systems / Verilənlər bazaları sistemləri (yüksək səviyyədə)	3 +0+2	6

5.	CS 217	Reverse Engineering / Tərsinə mühəndislik	3 +0+2	6
6.	CS 219	Advanced Cloud Computing / Bulud texnologiyası (yüksək səviyyədə)	3 +0+2	6

Year 2, TERM 4 (Spring) / Yaz			
Course ID	**Course Name/ Fənnin adı**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
CS 202	Industrial Internship (2 weeks) / İstehsalat təcrübəsi		6
CS 204	Scientific Research and Pedagogical Internship / Elmi tədqiqat və pedaqoji təcrübə		6
CS 206	Master Thesis / Magistirlik dissertasiyası		18
		Total / Cəmi	**30**

According to the website, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor's degree programme Informatics and Control in Technical Systems:

"By the end of the Informatics and Control in Technical Systems program, graduates will be able to:

PLO 1 – Apply advanced mathematics, computing, control theory, signal processing and information processing methods to formulate, model and analyze complex multi-domain technical systems and predict their behavior within stated uncertainty limits.

PLO 2 – Select, implement and critically evaluate analytical, numerical, data-driven and experimental methods including machine learning, robust and optimal control, and advanced signal processing to analyze; interpret complex control and information systems, quantify uncertainty and assess the validity and limitations of results.

PLO 3 – Design, document, and validate complex hardware–software to meet specified functional, safety, reliability, environmental, and economic requirements; integrate subsystems and demonstrate verification and validation

PLO 4 – Plan and conduct independent investigations: perform systematic literature searches, design and run experiments/simulations, apply appropriate statistical analyses, consult standards/codes, and draw evidence based conclusions presented in scholarly form.

PLO 5 – Apply professional engineering tools, development frameworks, software and laboratory/workshop methods to implement, test and validate technical solutions; demonstrate competence in embedded platforms, industrial networks, robotics, instrumentation and energy systems as appropriate emphasizing hands-on proficiency and safety practices.

PLO 6 – Make justified and evidence-based engineering judgements when managing complexity, uncertainty and risk; evaluate alternatives by considering technical, economic, ethical, environmental, safety, and sustainability implications; plan, lead, and manage projects and accept responsibility for outcomes and team performance.

PLO 7 – Communicate complex technical ideas clearly (written & oral) to specialist and non-specialist audiences, prepare and publish technical and academic documentation, contribute to innovation and lead or contribute effectively in interdisciplinary and multicultural teams.

PLO 8 – Demonstrate ability for independent lifelong learning and professional development: maintain a personal development and structured professional development plan, critically evaluate emerging technologies and identify activities to sustain competence."

The following **curriculum** is presented:

Year 1, TERM 1 (Fall) / Payız			
Course ID	**Course Name / Fənnin adı**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MPA 101	Machine Learning / Maşınla öyrətmə	2+0+3	6
MPA 103	Advanced Process Automation Systems Design / Proseslərin Avtomatlaşdırılması Sistemlərinin Dizaynı (yüksək səviyyədə)	3+0+2	6
MPA 105	Advanced Optimal Control / Optimal İdarəetmə (yüksək səviyyədə)	3+0+3	8
MPA 107	Communication Networks / Komunikasiya şəbəkələri	2+0+2	5
MPA 109	Methodology of Scientific research / Elmi tədqiqatın metodologiyası	2+2+0	5
		Total / Cəmi	**30**

Year 1, TERM 2 (Spring) / Yaz			
Course ID	**Course Name / Fənnin adı**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
PDG 102	Higher Education Pedagogy / Ali Təhsil Pedaqogikası	1+2+0	4
MPA 102	Neural Networks & Deep Learning / Neyron şəbəkələr və dərin öyrətmə	3+0+3	8
MPA 104	Robust Control / Robast idarəetmə	2+0+3	6
MPA 106	Machine Vision / Maşın görmə	2+0+3	6
MPA xxx	Elective 1 / Seçmə fənn – Blok 1	2+0+3	6
		Total / Cəmi	**30**

Year 2, TERM 3 (Fall) / Payız			
Course ID	**Course Name / Fənnin adı**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
PSY 201	Psychology / Psixologiya	1+1+0	2
MPA 201	Mechatronics Systems / Mexatronika sistemləri	2+0+2	5
MPA 203	Embedded Systems / Daxil edilmiş sistemlər	2+0+2	5
MPA 205	Robotics / Robototexnika	2+0+2	5
MPA 207	Industrial Project / İstehsalat layihəsi	2+0+1	4
MPA xxx	Elective 2 / Seçmə fənn – Blok 2	3 +0+2	6
MPA 209	Industrial Internship (2 weeks) / İstehsalat təcrübəsi (2 həftə)		3
		Total / Cəmi	**30**

Year 2, TERM 4 (Spring) / Yaz			
Course ID	**Course Name / Fənnin adı**	**Hours/week (Lec+Sem+Lab)**	**Credits ECTS**
MPA 202	Scientific and Pedagogical Internship / Elmi-pedaqoji təcrübə		12
MPA 204	Master Thesis / Magistr Dissertasiyası		18
		Total / Cəmi	**30**

AE – Area Elective /Seçmə fənlər

#	Course ID	Course Name / Fənnin adı	Hours/week (Lec+Sem+Lab)	Credits ECTS
2nd Term Elective Courses /Seçmə fənn – Blok 1				
1.	MPA 108	Advanced Signal Processing / Siqnalların emalı (yüksək səviyyədə)	2+0+3	6
2.	MPA 110	Renewable Energy / Bərpa olunan enerji	2+0+3	6
3.	MPA 112	Energy Management / Enerji menecmenti	3+0+2	6
4.	MPA 114	Energy and Control / Enerji və İdarəetmə	3+0+2	6

#	Course ID	Course Name / Fənnin adı	Hours/week (Lec+Sem+Lab)	Credits ECTS
3rd Term Elective Courses /Seçmə fənn – Blok 2				
1.	MPA 211	Management of Automation projects / Avtomatlaşdırma layihələrinin idarə edilməsi	3+0+2	6
2.	MPA 213	Automatic Control and Environmental management Systems / Avtomatik Nəzarət və Ətraf Mühitin İdarəetmə Sistemləri	3+0+2	6
3.	MPA 215	Array Signal Processing / Massiv siqnalların emalı	3+0+2	6
4.	MPA 217	Big Data / Böyük verilənlər	3+0+2	6