



AGENTUR FÜR
QUALITÄTSSICHERUNG DURCH
AKKREDITIERUNG VON
STUDIENGÄNGEN E.V.

FINAL REPORT

AZERBAIJAN TECHNICAL UNIVERSITY

COMPUTER ENGINEERING AND IT

COMPUTER ENGINEERING (BACHELOR)

COMPUTER ENGINEERING (MASTER)

RADIO ENGINEERING AND TELECOMMUNICATIONS ENGINEERING
(BACHELOR)

ELECTRONICS, TELECOMMUNICATIONS AND RADIO ENGINEERING
(MASTER)

INFORMATION TECHNOLOGIES (BACHELOR)

INFORMATION TECHNOLOGIES AND SYSTEMS ENGINEERING (MASTER)

May 2026



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DECISION OF THE AQAS STANDING COMMISSION ON THE STUDY PROGRAMMES

- **“COMPUTER ENGINEERING” (BACHELOR)**
- **“COMPUTER ENGINEERING” (MASTER)**
- **“RADIO ENGINEERING AND TELECOMMUNICATIONS ENGINEERING” (BACHELOR)**
- **“ELECTRONICS, TELECOMMUNICATIONS AND RADIO ENGINEERING” (MASTER)**
- **“INFORMATION TECHNOLOGIES” (BACHELOR)**
- **“INFORMATION TECHNOLOGIES AND SYSTEMS ENGINEERING” (MASTER)**

OFFERED BY AZERBAIJAN TECHNICAL UNIVERSITY, BAKU, AZERBAIJAN

Beschluss:

1. The study programmes **“Computer Engineering” (Bachelor)**, **“Computer Engineering” (Master)**, **“Radio Engineering and Telecommunications Engineering” (Bachelor)**, **“Electronics, Telecommunications and Radio Engineering” (Master)**, **“Information Technologies” (Bachelor)**, and **“Information Technologies and Systems Engineering” (Master)** offered by **Azerbaijan Technical University, Azerbaijan** are accredited according to the AQAS Criteria for Programme Accreditation (Bachelor/Master).

The accreditations are conditional.

The study programmes essentially comply with the requirements defined by the criteria and thus the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) and the European Qualifications Framework (EQF) in their current version. The required adjustments can be implemented within a time period of twelve months.

2. The conditions have to be fulfilled. The fulfilment of the conditions has to be documented and reported to AQAS no later than **30 June 2027**. The confirmation of the conditions might include a physical site visit within the time period of twelve months.
3. The accreditation is given for the period of **six years** and is valid until **30 June 2032**, provided that the conditions listed below are fully met. Otherwise, the accreditation may be withdrawn.

Conditions:

All programmes:

1. As far as documentation is concerned, the university needs to provide the following:
 - a. The university needs to formulate and document complete course descriptions for all courses including core information such as learning outcomes, content, assessment methods, and workload.

- b. The university needs to formulate and document clear and outcome-oriented learning outcomes for all courses as well as a clear mapping between programme and course learning outcomes.
2. The laboratories and lab equipment must be updated and improved in the short term, and evidence must be provided of long-term development in line with the programme's respective profile.
3. The requirements for internships are not specified, e.g. in the module descriptions, and need to be documented and transparent.
4. AzTU needs to further develop formalised QA procedures to ensure that feedback from all stakeholders is sufficiently considered and to demonstrate how evaluation results and surveys (student feedback, labour market feedback, alumni feedback) are documented, institutionalised, secure, and transparent and thereby used to develop and improve the curriculum and other components of the quality assurance cycle.
5. AzTU needs to establish and approve a comprehensive examination regulation, which has to be made available in all languages of instruction to all internal stakeholders, especially students, and should ideally be available to external stakeholders to ensure transparency, equal treatment, and student-centred learning.
6. The university needs to adapt their diploma supplement, allowing easier acknowledgement of studies at universities abroad by providing more detailed information on the study programmes.
7. The university needs to provide stakeholders such as (prospective) students and relevant (international) partners with a more comprehensive and systematic overview of the programmes, intended learning outcomes of all programmes, the selection procedures, the qualification awarded, and teaching, learning, and assessment regulations, and to provide evidence that this information is published updated regularly on the website (in all languages of instruction).

Additionally for the bachelor's and the master's programme Computer Engineering:

8. The laboratories and lab equipment must be updated and improved in the short term, and evidence must be provided for long-term development in line with the programme's respective profile, i.e. AI- and cloud-oriented improvements need to be made for this programme.

Additionally for the bachelor's programme Radio Engineering and Telecommunications Engineering and the master's programme Electronics, Telecommunications and Radio Engineering:

9. The laboratories and lab equipment must be updated and improved in the short term, and evidence must be provided for long-term development in line with the programme's respective profile, i.e. modern telecom practice environments (e.g. SDR and virtualised/cloud-native network labs) need to be provided for both programmes.

The following **recommendations** are given for further improvement of the programmes:

All programmes:

1. The university should provide complete and separate documents for each language stream, including a typical study plan and information on responsible staff.
2. AzTU would benefit from a more formalised collaboration and interaction between different departments, especially in cases in which courses are offered by other departments, to ensure that all processes and

responsibilities are clear, lifecycles of programmes can be monitored, and consistency can be ensured, e.g. through dedicated programme managers.

3. The transparent communication of model study paths or the provision of an idealised course plan are recommended to ensure that students have the opportunity to develop distinct profiles through the different specialisation tracks.
4. The faculty should develop and implement procedures allowing to incorporate updates and adjustments (due to technical or content-related developments, employer feedback, student feedback from evaluations) into the curriculum on a small scale that also involves the responsible teaching staff.
5. As the university emphasises its intention to become more internationally oriented, it is recommended to strengthen the position and visibility of the international office, including further information for students, e.g. by international events, exploring different opportunities for internationalisation, such as summer schools and global internships, and the continuous dedication to acquire further funds to provide scholarships and grants.
6. The university should support and encourage teaching staff to engage in research and development projects by providing the necessary resources, autonomy, and possibilities for continuous professional development.
7. The university should further promote participation in staff mobility and professional development measures to support internationalisation and staff development.
8. To foster professional development, teaching staff should systematically receive and use the results of student evaluations of the study programme and discuss them with students where appropriate.
9. To foster internationalisation, international collaboration, and effective research dissemination, the English language proficiency of teaching staff should be enhanced.
10. It is recommended that the international office be more prominent and provide more information on international mobility opportunities, ensuring sufficient student support and infrastructure to encourage and enable student mobility.
11. In order to market the programmes to an international target group, the university should publish core information in English and a comprehensive overview highlighting the strengths and specialties of the programme to facilitate the information of interested students, both nationally and internationally, as well as a graduate profile and programme learning outcomes.

Additionally for the bachelor's programme Computer Engineering:

12. It is recommended to strengthen content areas, e.g. hardware-related topics such as FPGAs and security-related courses where feasible within the national framework.

Additionally for the bachelor's programme Radio Engineering and Telecommunications Engineering:

13. The university should integrate and make visible current telecom topics (including respective learning outcomes and assessable module components) and strengthen software-centric competences across the curriculum.

Additionally for the bachelor's programme Information Technologies:

14. The university should consider a dedicated class on formal methods to minimise content overlap and equip students with universally applicable methodologies.

With regard to the reasons for this decision the Standing Commission refers to the attached expert report.

EXPERT REPORT

ON THE STUDY PROGRAMME

- “COMPUTER ENGINEERING” (BACHELOR)
- “COMPUTER ENGINEERING” (MASTER)
- “RADIO ENGINEERING AND TELECOMMUNICATIONS ENGINEERING” (BACHELOR)
- “ELECTRONICS, TELECOMMUNICATIONS AND RADIO ENGINEERING” (MASTER)
- “INFORMATION TECHNOLOGIES” (BACHELOR)
- “INFORMATION TECHNOLOGIES AND SYSTEMS ENGINEERING” (MASTER)

OFFERED BY AZERBAIJAN TECHNICAL UNIVERSITY, BAKU, AZERBAIJAN

Visit to the university: 9–12 December 2025

Panel of experts:

Prof. Dr. Gerlinde Schreiber	Faculty of Electrical Engineering and Computer Science, HS Bremen (City University of Applied Sciences), Germany
Prof. Dr. Martin Leucker	Institute for Software Engineering and Programming Languages, University of Lübeck, Germany
Prof. Dr. Axel Küpper	Chair of Service-centric Networking, TU Berlin, Germany
Dr. Efe Arda	Organisational management consultant and artificial intelligence researcher, Başkent University, Türkiye (labour market representative)
Peter Schroeder	Berlin School of Economics and Law, Germany (student representative)

Coordinator:

Dr. Christina Schönberger-Stepien	AQAS, Cologne, Germany
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I. Preamble

AQAS – Agency for Quality Assurance through Accreditation of Study Programmes – is an independent non-profit organisation supported by nearly 90 universities, universities of applied sciences, and academic associations. Since 2002, the agency has been recognised by the German Accreditation Council (GAC). It is, therefore, a notified body for the accreditation of higher education institutions and programmes in Germany.

AQAS is a full member of ENQA and also listed in the European Quality Assurance Register for Higher Education (EQAR) which confirms that our procedures comply with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), on which all Bologna countries agreed as a basis for internal and external quality assurance.

AQAS is an institution founded by and working for higher education institutions and academic associations. The agency is devoted to quality assurance and quality development of academic studies and higher education institutions' teaching. In line with AQAS' mission statement, the official bodies in Germany and Europe (GAC and EQAR) approved that the activities of AQAS in accreditation are neither limited to specific academic disciplines or degrees nor a particular type of higher education institution.

II. Accreditation procedure

This report results from the external review of the study programmes "Computer Engineering" (Bachelor), "Computer Engineering" (Master), "Radio Engineering and Telecommunications Engineering" (Bachelor), "Electronics, Telecommunications and Radio Engineering" (Master), "Information Technologies" (Bachelor), and "Information Technologies and Systems Engineering" (Master) offered by Azerbaijan Technical University, Azerbaijan.

1. Criteria

Each programme is assessed against a set of criteria for accreditation developed by AQAS: the AQAS Criteria for Programme Accreditation (Bachelor/Master). The criteria are based on the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) 2015. To facilitate the review each criterion features a set of indicators that can be used to demonstrate the fulfilment of the criteria. However, if single indicators are not fulfilled this does not automatically mean that a criterion is not met. The indicators need to be discussed in the context of each programme since not all indicators can necessarily be applied to every programme.

2. Approach and methodology

Initialisation

The university mandated AQAS to perform the accreditation procedure in December 2023. The university produced a Self-Evaluation Report (SER). In April 2025, the institution handed in a draft of the SER together with the relevant documentation on the programmes and an appendix. The appendix included e.g.:

- an overview of statistical data of the student body (e.g. number of applications, beginners, students, graduates, student dropouts),
- the CVs of the teaching staff/supervisors,
- information on student services,
- as well as academic regulations.

AQAS checked the SER regarding completeness, comprehensibility, and transparency. The accreditation procedure was officially initialised by a decision of the AQAS Standing Commission on 19 May 2025. The final version of the SER was handed in in September 2025.

Nomination of the expert panel

The composition of the panel of experts follows the stakeholder principle. Consequently, representatives from the respective disciplines, the labour market, and students are involved. Furthermore, AQAS follows the principles for the selection of experts defined by the European Consortium for Accreditation (ECA). The Standing Commission nominated the aforementioned expert panel in October 2025. AQAS informed the university about the members of the expert panel and the university did not raise any concerns against the composition of the panel.

Preparation of the site visit

Prior to the site visit, the experts reviewed the SER and submitted a short preliminary statement including open questions and potential needs for additional information. AQAS forwarded these preliminary statements to the university and to all panel members in order to increase transparency in the process and the upcoming discussions during the site visit.

Site visit

After a review of the SER, a site visit to the university took place from 9–12 December 2025. On site, the experts interviewed different stakeholders, e.g. representatives of the management of the higher education institution, the programme management, of teaching and of other staff, as well as students and graduates, in separate discussion rounds and consulted additional documentation as well as student work. The visit concluded with the presentation of the preliminary findings of the group of experts to the university's representatives.

Reporting

After the site visit had taken place, the expert group drafted the following report, assessing the fulfilment of the AQAS Criteria. The report included a recommendation to the AQAS Standing Commission. The report was sent to the university for comments.

Decision

The report, together with the comments of the university, forms the basis for the AQAS Standing Commission to take a decision regarding the accreditation of the programmes. Based on these two documents, the AQAS Standing Commission took its decision on the accreditation on 18 May 2026. AQAS forwarded the decision to the university. The university had the right to appeal against the decision or any of the imposed conditions.

In June 2026, AQAS published the report, the result of the accreditation as well as the names of the panel members.

III. General information on the university

Azerbaijan Technical University (AzTU) was established in 1950 and is a public higher education institution located in Baku, Azerbaijan. The University offers bachelor's, master's, and PhD programmes and engages in research activities across various specialisations. Languages of instruction are said to be Azerbaijani, Russian, English, and German. AzTU operates under a Scientific Council, the highest governing body comprising the top management (rector and vice-rectors), faculty representatives, chairs, student organisations, and trade union members. Strategic oversight is provided by a three-member Board of Trustees appointed by the Ministry of Science and Education.

AzTU's organisational structure includes management, academic/teaching, research and development, administration, support services (e.g. Library & Information Center, IT, Social Support Center), and social services (e.g. Trade Union Committees, Student Youth Organisation, Student Science Center). The University's day-to-day affairs are directed by the rector, who reports both to the Scientific Council and to the Board of Trustees. Vice-rectors manage areas such as academic affairs, research, finance and accounting, document control, international relations, quality assurance, housing-utilities, student affairs, social and sports activities.

AzTU has eight faculties (Transportation and Logistics, Power Engineering and Automation, Metallurgy and Materials Engineering, Mechanical Engineering and Robotics, Information and Communication Technologies, Special Equipment and Technology, Economics and Management, German Engineering) and 22 departments. The University offers 36 bachelor's programmes, 36 master's programmes (with 128 specialisations), and 31 PhD programmes. Research at AzTU is mainly conducted in the fields of Data Analytics, Artificial Intelligence and Cybersecurity, Energy, Transport and Environmental Technologies, Robotics and Industrial Internet of Things, Advanced Materials and Nanotechnologies, and Sustainable Development and Mobility.

The institution's increasing impact is reflected in a substantial growth in student enrolment, especially in the master's programmes. The SER holds that all programmes are embedded in the University's academic and administrative framework and combine international standards, collaborations and partnerships with the industry, and modern technologies (including LMS platforms) to deliver high-quality education.

The Bachelor of Science programme in Computer Engineering is offered by the Information and Telecommunication Technologies Faculty, within the Computer Technologies Department. It emphasises computer system design and engineering, with a focus on areas such as digital circuits and large networks, which align with ongoing research in cybersecurity, network engineering, and cloud computing. The curriculum adheres to global standards set by ACM and IEEE-CS, and is offered in both Azerbaijani and Russian.

The Bachelor of Science programme in Radio Engineering and Telecommunications Engineering is also embedded in the Information and Telecommunication Technologies Faculty, within the Radiotechnic and Telecommunication Department. With a long history of academic excellence, the programme collaborates with industry leaders like Azerconnect and Aztelecom Trucks, ensuring that students gain practical, industry-relevant skills. It is delivered in Azerbaijani, Russian, and English, maintaining a balance between traditional and modern technological challenges.

The Bachelor of Science programme in Information Technology is also embedded in the Computer Technologies Department, emphasising areas such as artificial intelligence (AI), cybersecurity, and software engineering. The curriculum aligns with ACM and IEEE-CS guidelines (IT2017), preparing students for roles in IT system design and implementation. Like the other programmes, it is supported by an LMS for delivering educational resources and assessments and is taught in both Azerbaijani and Russian.

At the master's level, the Master of Science programme in Computer Engineering is coordinated by the Higher Education Institute (HEI) in collaboration with the Computer Technologies Department. It draws on international cooperation with universities such as Gazi University and Kharkiv Polytechnic University, ensuring that

students receive a globally competitive education that meets the demands of the labour market. The LMS supports a centralised examination process overseen by an examination centre and appeals commission.

Similarly, the Master of Science programme in Electronics, Telecommunications, and Radio Engineering is situated within the Radiotechnic and Telecommunication Department. The programme integrates international expertise, offering a foundation in electronics and telecommunications, with practical learning experiences provided by modern technological tools in the classroom.

The Master of Science programme in Information Technologies and Systems Engineering is also embedded in the Computer Technologies Department and coordinated by HEI. The programme emphasises collaboration with organisations like the National Aerospace Agency and companies such as Sinam LLC and Defscope LLC. It has a focus on international research, partnering with universities like Ankara University and Belarusian State University of Informatics and Radioelectronics.

IV. Assessment of the study programmes

1. Quality of the curriculum

Bachelor's/Master's degree

The intended learning outcomes of the programme are defined and available in published form. They reflect both academic and labour-market requirements and are up-to-date with relation to the relevant field. The design of the programme supports achievement of the intended learning outcomes.

The academic level of graduates corresponds to the requirements of the appropriate level of the European Qualifications Framework.

The curriculum's design is readily available and transparently formulated.

[ESG 1.2]

Description

According to the documentation, the outcomes of all educational programmes are said to reflect academic and labour market requirements and are scientifically and professionally up-to-date. The academic level of the educational programme is said to meet the requirements of Level 6 of the relevant level of the European Qualifications Framework. At the local level, the educational programmes correspond to Level 6 and 7 of the National Qualifications Framework for Continuing Education of the Republic of Azerbaijan (Level 6: Bachelor; Level 7: Master). In terms of eligibility, one academic year of the study programme is equal to 1800 teaching hours and 60 ECTS credits (European Credit Transfer and Accumulation System), which are available to students (citizens, employees, etc.). The SER holds that all programmes align with the national framework and that the curricula are structured in accordance with the requirements of the Bologna process and the ECTS system, allowing for student mobility and education/exchange in EU countries.

The academic year for full-time students at both levels of higher education (bachelor and master) is 40 weeks. Each semester consists of 20 weeks (including a 5-week exam period). Full-time students are assigned 30 credits per semester (this number may be lower if the student has academic debt from prerequisite courses), while part-time students are assigned up to 20 credits. One credit equals 30 hours of student work, both in and outside the classroom.

A master's student's weekly workload in a 5-day work regime is 45 hours, with 15 hours of in-class time and 30 hours of independent work. This translates to 1.5 credits per week (excluding the summer semester). Each week which is dedicated to preparing and defending the master's thesis, preparing for and taking exams, and completing internships, is equivalent to 1.5 credits.

Full-time students are allowed to take additional courses. Students studying under state order who maintain a GPA of 81-100 in individual courses throughout their studies are also permitted to take additional courses in their field. In all cases, the number of credits a student takes in a semester should not exceed 40.

All educational programmes are said to be structured in accordance with the European Credit Transfer and Accumulation System (ECTS), facilitating international credit recognition. Credits earned by a student who successfully completes their studies are included in the ECTS. The SER mentions that an academic year comprises 1800 hours or 60 ECTS credits, supporting student mobility and furthering education within the European Higher Education Area.

The programme documentation states that leading enterprises have contributed to the curricula, providing feedback to align learning outcomes with labour market needs. The University's Career and Employment Centre is highlighted as a key resource for supporting employment and career development, with established partnerships facilitating student internships and collaboration with industry professionals.

Computer Engineering (Bachelor)

According to the SER, the bachelor's programme Computer Engineering spans four years for full-time study, leading to a bachelor's degree. The programme comprises a total of 240 credits and higher education institutions are said to be required to adhere to national regulations in delivering this curriculum. It aims to prepare graduates with comprehensive knowledge and skills tailored to meet scientific and professional demands in the field of computer engineering. The programme focuses on developing both general and specialised competencies necessary for students to excel in various professional roles, from project design to organisational management and technological operations.

As outlined in the self-evaluation report (SER), the programme is structured to achieve general competencies, i.e. broad-based skills relevant to multiple sectors, such as problem-solving, communication, and effective teamwork. More specialised competencies include project construction, organisational-administrative competencies, scientific research, and production-technological skills. The curriculum also emphasises service and operational skills specific to the field of computer engineering. As for research and practical application, students gain skills in conducting research projects and participating in practical training, such as a 20-week internship at production enterprises, to ensure hands-on experience in the industry. Students also develop their academic and professional skills by preparing for coursework and the Final State Attestation through rigorous academic training, including independent work and collaboration with faculty on research and development projects.

The curriculum of the Computer Engineering programme is organised to balance foundational knowledge with vocational training. It includes both compulsory and elective subjects, with a clear allocation of credits according to the European Credit Transfer and Accumulation System (ECTS). For general subjects, 30 credits are required, comprising both compulsory (24 credits) and elective courses (6 credits), accounting for 15-20% of total hours. Vocational training makes up 120 credits, which include a mix of compulsory and elective courses, constituting 80-85% of the curriculum. 21 credits are allocated to internships (20 weeks), and 9 credits are reserved for the Final State Attestation, providing practical and evaluative components to the programme.

The SER also holds that the programme design incorporates research tasks, student presentations at conferences, and the defence of their work during coursework assessments. The integration of theoretical and practical elements ensures that students are prepared for both academic and industrial careers. Additionally, the University's collaboration with leading institutions and the establishment of a Career and Employment Centre aim to align educational outcomes with labour market needs and provide students with opportunities for internships and career advancement.

Expert evaluation

The curriculum of the bachelor's programme Computer Engineering is designed to cover the full spectrum from theoretical principles and innovation to practical application, deployment, and configuration. It places strong emphasis on a balanced integration of theoretical foundations and applied topics. The thematic areas range from computer hardware and architecture to software infrastructure, including selected software methods and methodologies. This focus is clearly reflected throughout the curriculum. Overall, the programme's design, compulsory internships, and industry links support the achievement of the intended learning outcomes and ensure good employability, so the foundation of the curriculum is robust and complies with Level 6 of the European Qualifications Framework.

At the same time, a significant part of the curriculum is prescribed at governmental level, which limits the university's flexibility to introduce or remove modules. While the overall structure formally follows ACM (Association of Computing Machinery) / IEEE (Institute of Electrical and Electronics Engineers) recommendations, there are noticeable gaps such as the absence of FPGA (Field Programmable Gate Array) related content and only limited coverage of some specialised topics that are already offered in related programmes (e.g. penetration testing in Information Technologies), which could be highly relevant also for computer engineering graduates. While computer engineering mainly focusses on the technical aspects of computer science, the programme would benefit from some courses covering theoretical foundations of computer science. The interviews on site revealed that opportunities for cross-faculty coordination are limited. A stronger coordination and cooperation with faculties responsible for foundational courses (e.g. mathematics) and core computer engineering courses could further improve curricular coherence. To cover the respective areas of the field, the experts recommend strengthening selected content areas, e.g. hardware-related topics such as FPGAs and security-related courses, where feasible within the national framework (**Finding 1**).

For a number of modules, the intended learning outcomes and progression are clearly formulated, but this is not consistent across all courses; some descriptions are too generic or not specific enough regarding the skills and competences to be achieved. As far as documentation is concerned, the university needs to formulate and document complete course descriptions for all courses including core information such as learning outcomes, content, assessment methods, and workload (**Finding 2**). Furthermore, much of the outcome information is currently limited to internal documentation rather than presented in a structured, easily accessible way for students and external stakeholders, and it is not systematically available on the university's website. The university thus needs to formulate and document outcome-oriented learning outcomes for all courses as well as a clear mapping between programme and course learning outcomes (**Finding 3**).

The panel positively notes that there is documented evidence of ongoing curriculum updates and that new topics such as artificial intelligence and cloud-based computing have been introduced or strengthened in recent years. However, the laboratory infrastructure has not yet fully kept pace with these ambitions, as current facilities reportedly lack GPUs or ASIC based accelerators that would better support practical training in modern AI and high-performance computing. The laboratories and lab equipment must be updated in this regard and improved gradually in line with the programme's AI- and cloud-oriented profile (**Finding 4a**).

From a labour-market perspective, the curriculum provides a solid preparation for employment in the regional ICT sector: Compulsory internships connect students to companies already during their studies, employers are present and visible on campus, and communication between the programme and the labour market appears to function well. The main programming language being Python is a reasonable choice for many current application domains, and the inclusion of advanced AI-related courses, some of which make use of cloud-based resources, indicates that the programme responds to recent technological developments.

The programme reportedly offers language streams in Azerbaijani, Russian, and English, allowing computer engineering studies in these languages. However, the experts found that details about the implementation of

these streams are not transparent. Hence, the university should provide separate documents for each language stream, including a typical study plan and information on responsible staff (**Finding 5**).

Communication between different departments is currently not overly systematic. AzTU would benefit from a more formalised collaboration and interaction between different departments, especially in cases in which courses are offered by other departments, to ensure that all processes and responsibilities are clear, lifecycles of programmes can be monitored, and consistency can be ensured, e.g. through dedicated programme managers (**Finding 6**).

Conclusion

The criterion is partially fulfilled.

Computer Engineering (Master)

The master's programme Computer Engineering spans two years of full-time study, leading to a master's degree. The programme comprises a total of 120 credits, while part-time education extends the duration to two years and six months. The documentation specifies that the programme offers specialisations in computer communications and networking, software, architecture, and cybersecurity, providing graduates with a variety of career pathways.

According to the SER, the programme aims to equip graduates with a comprehensive understanding of theoretical principles and research methods. Graduates are said to be prepared for scientific research and pedagogical roles, requiring extensive professional training, and are expected to handle unforeseen and complex problems within their field. The competencies described in the programme are both subject-specific and interdisciplinary, ensuring that students are well-rounded professionals. The programme documentation outlines the requirements for professional activity, detailing training across scientific research, pedagogical practice, production technology, and organisational-managerial training. Minimum content standards are defined, including subject areas, course credits, learning outcomes (knowledge, skills, and competencies), competency codes, and the overall duration of the programme.

It is stated that higher education institutions must provide suitable material and technical resources, such as ICT-equipped classrooms, laboratories, and computer labs, to support lectures, practical classes, and research. The SER highlights that students must have access to networks, databases, electronic libraries, and internet resources. Faculty members should have the necessary academic qualifications, and external specialists may also be engaged if they meet the required standards. Scientific supervision of master's theses is to be undertaken by academically qualified staff or external experts.

The programme description specifies that the educational process combines theoretical and pedagogical training through lectures, seminars, consultations, independent work, and pedagogical practice. Methods such as oral presentations, interviews, interactive learning, independent work, discussions, round tables, illustrations, research, laboratory and practical work, and other methods are employed. According to the SER, research and scientific-pedagogical internships are integral components of the programme, conducted either in relevant organisations or within university departments and laboratories.

The curriculum distinguishes between mandatory and elective courses, allocating 42 credits to core courses (designed for all specialisations within the field such as computer communications and networking, software, architecture, and cybersecurity), 18 credits to electives (for specialisation), and 60 credits to internships (8 credits for research internship, 8 credits for scientific-pedagogical internship, 8 credits for research work, 6 credits for project management), and thesis work (30 credits for the master's thesis, including preparation and

defence). Elective courses are said to be offered on the basis of experience of the teaching staff, research infrastructure, and local and international job opportunities.

The programme outlines competencies gained through both mandatory and elective coursework, emphasising research and pedagogical internships to develop field-specific skills. It is reported that students engage in independent research and complete assignments under faculty guidance, culminating in the defence of their master's thesis before an academic committee. Dissertation topics often address practical problems encountered in the industry, with research results presented at conferences and thesis defences. Additionally, some students participate in national and international competitions or collaborate on projects with instructors.

The requirements for the Final State Attestation include defending a master's thesis. The Ministry of Education of the Republic of Azerbaijan establishes guidelines for thesis content, volume, and defence procedures. Student assessment is carried out in accordance with regulations approved by the Cabinet of Ministers. Successful defence of the thesis results in the awarding of a master's degree and a state-recognised diploma.

Expert evaluation

The master's curriculum in Computer Engineering formally aligns with ACM/IEEE recommendations and builds on the bachelor's programme by integrating research-oriented components, mandatory internships, and a substantial master's thesis. Students are encouraged to link their thesis work with company projects, and internships are compulsory, which creates strong opportunities for labour-market integration and can directly support job placement at graduation. Overall, the programme's structure, compulsory internships, and strong industry links support the achievement of the intended learning outcomes and ensure good graduate employability, providing a robust curricular foundation that complies with Level 7 of the European Qualifications Framework.

A clear strength of the programme is the flexibility students have in choosing electives and shaping their individual profile, and the panel positively notes the close cooperation with industry partners for internships and thesis topics. Supervision arrangements for theses appear robust and oriented towards practical and research-relevant problems, and there were no major concerns regarding supervision capacity or quality. At the same time, research-oriented courses are limited in the master's programme.

However, the high degree of elective freedom also has a downside, as the curriculum does not structurally require students to complete a coherent specialisation path. As a result, it is possible for students to graduate with a rather scattered set of courses instead of a clearly recognisable focus (e.g. networking, software engineering, cybersecurity, or architecture), which weakens the profile of the master's degree from an external perspective. The distribution of credits between core modules, electives, internships, research work, project management, and the thesis is, in principle, appropriate for a master's programme, but the panel would welcome a stronger emphasis on structured specialisation within the elective part. For example, requiring students to complete at least one defined specialisation track (such as a set of four related modules) would help to ensure that graduates can demonstrate advanced expertise in a clearly identifiable subfield and would further streamline and strengthen the programme. The transparent communication of model study paths or the provision of an idealised course plan are therefore recommended to ensure that students have the opportunity to develop distinct profiles through the different specialisation tracks (**Finding 7**).

Similar to the bachelor's level, information on intended learning outcomes and the progression of competences is not consistently described and made visible in a user-friendly way. As far as documentation is concerned, the university needs to formulate and document complete course descriptions for all courses including core information such as learning outcomes, content, assessment methods, and workload (see **Finding 2**). Also, key details remain embedded in internal documents rather than being systematically presented in public module descriptions or on the programme website. The university thus needs to formulate and document outcome-

oriented learning outcomes for all courses as well as a clear mapping between programme and course learning outcomes (see **Finding 3**).

The panel positively notes that there is documented evidence of ongoing curriculum updates and that new topics such as artificial intelligence and cloud-based computing have been introduced or strengthened in recent years. However, the laboratory infrastructure has not yet fully kept pace with these ambitions, as current facilities reportedly lack GPUs or ASIC based accelerators that would better support practical training in modern AI and high-performance computing. Hence, the laboratories and lab equipment must be updated and improved gradually in line with the programme's AI- and cloud-oriented profile (see **Finding 4a**).

The programme reportedly offers language streams in Azerbaijani, Russian, and English, allowing computer engineering studies in these languages. However, the experts found that details about the implementation of these streams are not transparent. Hence, the university should provide separate documents for each language stream, including a typical study plan and responsible staff (see **Finding 5**).

Communication between different departments, especially in cases in which courses are offered by other departments, is currently not sufficiently systematic. AzTU would benefit from a more formalised collaboration and interaction between different departments, especially in cases in which courses are offered by other departments, to ensure that all processes, responsibilities are clear, lifecycles of programmes can be monitored, and consistency can be ensured, e.g. through dedicated programme managers (see **Finding 6**).

Conclusion

The criterion is partially fulfilled.

Radio and Telecommunications Engineering (Bachelor)

The bachelor's programme Radio Engineering and Telecommunications Engineering spans four years for full-time study, leading to a bachelor's degree. The programme comprises a total of 240 credits and higher education institutions are said to be required to adhere to national regulations in delivering this curriculum. The documentation specifies that the programme provides a balanced structure between general and vocational training, ensuring that graduates are equipped with a variety of competencies tailored to the needs of the academic and professional sectors.

According to the self-evaluation report (SER), the programme comprises a total of 240 credits, structured to ensure a balance between foundational and vocational training. The documentation highlights that 21 credits are dedicated to internships and 9 credits to the Final State Attestation. Overall, the curriculum consists of 24 credits (720 hours) for general subjects and 120 credits (3600 hours) for vocational training, with a breakdown of 15-20% of the curriculum devoted to general education and 80-85% to vocational subjects. The SER further indicates that elective subjects (60 credits in total), are selected based on faculty expertise and opportunities for international collaboration.

The programme aims to provide a comprehensive educational experience that equips students with both subject-specific and general competencies. These include skills in project design, organisational management, scientific research, production technology, and operational services. The SER outlines that achieving these competencies involves rigorous coursework, independent research, and project defence. Students also complete a 20-week internship (30 credits), which is undertaken in relevant industry settings to gain practical experience. The curriculum, as documented, differentiates between compulsory and elective courses, with institutions having the flexibility to customise electives based on local and international opportunities. It is noted that elective courses are designed to cater to the evolving demands of the industry and to support students'

professional growth. The SER confirms that this flexibility is intended to align educational outcomes with labour market needs, allowing for adaptations to meet the latest technological and academic advancements.

According to the SER, the necessary infrastructure provided by AzTU includes ICT classrooms, computer labs, and workshops for practical and research-based activities. Access to university resources such as local networks, internet services, databases, and electronic libraries is said to be provided. Faculty members delivering the programme should possess relevant academic qualifications, and specialists from external institutions may be involved in teaching and supervision if they meet the specified criteria.

The educational process, as described, integrates theoretical training with practical experience through lectures, seminars, consultations, and hands-on projects. Methods such as interactive learning, laboratory work, and independent study are employed to ensure students develop a strong foundation in both theoretical and applied aspects of the field. The SER notes that research and vocational internships are central to the programme, with placements available in university labs or external organisations.

The requirements for the Final State Attestation include the defence of a comprehensive project or thesis. It is reported that the Ministry of Education of the Republic of Azerbaijan outlines the content, structure, and assessment procedures for these defences. Student evaluations are conducted following regulations established by the Cabinet of Ministers, and successful completion of the attestation leads to the award of a state-recognised diploma.

Expert evaluation

The bachelor's programme Radio Engineering and Telecommunications Engineering presents a coherent engineering profile with substantial coverage of core radio and telecommunications foundations. Extensive basic training in mathematics, physics, and electrical engineering and a consistent focus on classical telecom infrastructures and radio systems provide a robust basis for advanced discipline-specific content. The programme complies with Level 6 of the European Qualifications Framework.

A key strength confirmed during the site visit is the close connection to industry. Internships and industrial practical phases are embedded in the programme, and cooperation with local telecom companies offers relevant opportunities for internships, projects, and thesis topics, thereby supporting employability and practical orientation.

At the same time, the programme's modernisation appears insufficiently systematic. Recent developments such as 5G/6G, cloud-native networks, virtualisation (SDN/NFV), edge/cloud computing, IoT and AI-driven network management are only marginally visible in the documentation of the study programme, and the site visit indicated that their inclusion is sometimes "hidden" within existing modules and depends on individual teachers' industry experience rather than being ensured through clearly formulated and assessable learning outcomes. In addition, the programme remains strongly hardware- and signal-centric; modern software-centric skills (e.g. programming for telecom, network automation, data engineering for telecoms) are not very prominent. The programme should therefore integrate and make visible current telecom topics (including explicit learning outcomes and assessable module components) and strengthen software-centric competences across the curriculum (**Finding 8**).

Furthermore, interviews revealed that information on the curriculum is not accessible in a structured way and often remains embedded in documents such as syllabi provided by the Ministry rather than being systematically presented via complete module descriptions and a clearly navigable course catalogue. This is in line with observations in other programme sections of the report, where module information and study guidance were found to be incomplete or not easily accessible online. As far as documentation is concerned, the university needs to formulate and document complete course descriptions for all courses including core information such as learning outcomes, content, assessment methods, and workload (see **Finding 2**).

Furthermore, the laboratory and equipment situation should be improved. While industry links help through donations, parts of the equipment are not state-of-the-art (often reflecting donated legacy infrastructure), and the laboratory portfolio does not clearly reflect modern telecom technologies such as SDR, NFV, and 5G standalone environments that would support hands-on teaching of current industry practices. The university needs to ensure that the laboratory and equipment are kept up to date and that a gradual but targeted upgrade of lab infrastructure towards modern telecom practice environments (e.g. SDR and virtualised/cloud-native network labs) is achieved (**Finding 4b**).

The programme reportedly offers language streams in Azerbaijani, Russian, and English, allowing computer engineering studies in these languages. However, the experts found that details about the implementation of these streams are not transparent. Hence, the university should provide separate documents for each language stream, including a typical study plan and responsible staff (see **Finding 5**).

Communication between different departments, especially in cases in which courses are offered by other departments, is currently not overly systematic. AzTU would benefit from a more formalised collaboration and interaction between different departments, especially in cases in which courses are offered by other departments, to ensure that all processes, responsibilities are clear, lifecycles of programmes can be monitored, and consistency can be ensured, e.g. through dedicated programme managers (see **Finding 6**).

Conclusion

The criterion is partially fulfilled.

Electronics, Telecommunications, and Radio Engineering (Master)

The master's programme Electronics, Telecommunications, and Radio Engineering is structured over a standard duration of two years for full-time study, leading to of a master's degree. The programme consists of 120 credits, while part-time study extends the duration to two years and six months. The documentation highlights various specialisations within the field, including computer communications and networking, software systems, architecture, and cybersecurity, enabling graduates to pursue diverse career paths.

The programme description indicates that graduates are expected to develop a broad and integrated understanding of theoretical principles and research methods. They should be prepared for conducting advanced scientific research, engaging in teaching activities, and addressing complex and unpredictable challenges within their professional domain. The set of competencies detailed in the curriculum combines technical expertise with interdisciplinary knowledge, preparing graduates to excel in a variety of professional settings.

The SER holds that students are trained across different areas, such as scientific research, pedagogical practice, production and technological processes, and organisational-managerial skills. It defines core educational components, including subject areas, course credits, expected learning outcomes (spanning knowledge, skills, and competencies), competency codes, and the duration of the master's programme.

It is emphasised that institutions offering this programme are equipped with necessary facilities, such as ICT-equipped classrooms and laboratories, computer labs, and workshops for conducting classes, practical work, and research. Furthermore, students have access to essential digital resources, including the local network, internet, databases, electronic libraries, and search engines. The SER specifies that teaching is provided by qualified academic staff, and external experts meeting established criteria may also contribute to the educational process. Supervision of master's theses is conducted by faculty members with the requisite academic credentials or qualified specialists from other organisations.

The programme integrates diverse teaching and learning methods such as lectures, practical classes, seminars, consultations, independent work, pedagogical practice, etc. Methods such as oral presentations,

interviews, interactive learning, independent work, discussions, round tables, illustrations, research, laboratory and practical work, and more are utilised to facilitate student learning. The text states that scientific research and scientific-pedagogical internships are included in the programme, with goals and objectives tailored to each specialisation. These internships may be completed within relevant organisations or university departments and laboratories.

According to the SER, the curriculum differentiates between mandatory and elective components. It allocates 42 credits to mandatory core courses, 18 credits to electives (for specialisation), and 60 credits to internships (8 credits for research internship, 8 credits for scientific-pedagogical internship, 8 credits for research work, 6 credits for project management), and thesis-related work (30 credits for master's thesis preparation and defence). Elective courses are designed flexibly, allowing institutions to adapt courses based on the expertise of faculty, research opportunities, and evolving job market demands. The SER highlights that these electives also facilitate participation in international exchange programmes.

The SER holds that the programme ensures that students achieve the intended learning outcomes by combining mandatory coursework with specialised electives. Research and scientific-pedagogical internships are fundamental in developing practical skills and field-specific competencies. It is mentioned that students engage in research projects under faculty guidance, with dissertation topics often linked to real-world problems encountered in the industry. The findings from these projects are typically presented at academic conferences and defended in front of a committee. Some students participate in national and international competitions, while others collaborate on research initiatives with instructors.

The requirements for the Final State Attestation involve defending a master's thesis. The Ministry of Education of the Republic of Azerbaijan sets the guidelines for the content, structure, and defence procedures of the thesis. Assessment is conducted in line with regulations approved by the Cabinet of Ministers. Graduates who successfully complete their thesis defence are awarded a master's degree and a state-recognised diploma.

Expert evaluation

The master's programme Electronics, Telecommunications and Radio Engineering builds on a solid engineering tradition and covers several important subdomains of the discipline (e.g. radio communication, optical communication, radar, and radio electronics). Together with the strong grounding in core engineering areas, this provides an academically plausible basis for advanced qualification at master's level and thus complies with Level 7 of the European Qualifications Framework.

A remarkable feature of the programme is the large number of specialisation options (reported as 16). From the experts' perspective, this breadth can be an asset, as it suggests the potential to address diverse subfields and to accommodate different student interests. However, it is not sufficiently clear from the documentation and the interviews whether all of these specialisations can (and will) be offered regularly, including across all language streams, and whether staffing and student numbers are adequate to sustain the full portfolio over time.

Moreover, the role of the specialisations within the curriculum remains ambiguous. Interviews on site suggested a high degree of elective freedom and that specialisations may primarily serve as thematic groupings rather than as binding tracks. It remains unclear whether students are required to select a specialisation and complete it with a defined minimum number of credits, or whether students may freely combine modules across different groups without a coherent specialisation path. The university should thus ensure a clearly recognisable master's profile and progression towards advanced competences in a defined subfield, e.g. through suggested study paths (see **Finding 7**).

The programme reportedly offers language streams in Azerbaijani, Russian, and English, allowing computer engineering studies in these languages. However, the experts found that details about the implementation of

these streams are not transparent. Hence, the university should provide separate documents for each language stream, including a typical study plan and responsible staff (see **Finding 5**).

As with the bachelor's programme, the information basis for external review and for student guidance appears weak. Documentation was described and observed as scattered, and the committee only received very few (two) course descriptions for the master's programme, which limits the possibility to judge coherence, level, assessment practices, and the systematic achievement of intended learning outcomes in sufficient detail. As far as documentation is concerned, the university needs to formulate and document complete course descriptions for all courses including core information such as learning outcomes, content, assessment methods, and workload (see **Finding 2**). In addition, a transparent mapping between programme learning outcomes and module learning outcomes is not obvious from the available materials, reducing transparency regarding competence progression and coverage. The university thus needs to formulate and document outcome-oriented learning outcomes for all courses as well as a clear mapping between programme and course learning outcomes (see **Finding 3**).

Finally, the modernisation challenge noted for the bachelor's level remains relevant: recent developments such as 5G/6G, cloud-native/virtualised networks (SDN/NFV), automation, and data-driven network management are not consistently visible as explicit, assessable programme elements, and modern software-centric skills are not very prominent across the programme. The university needs to ensure that the laboratory and equipment are kept up to date and that a gradual but targeted upgrade of lab infrastructure towards modern telecom practice environments (e.g. SDR and virtualised/cloud-native network labs) is achieved (see **Finding 4b**).

Communication between different departments is currently not sufficiently systematic. AzTU would benefit from a more formalised collaboration and interaction between different departments, especially in cases in which courses are offered by other departments, to ensure that all processes and responsibilities are clear, lifecycles of programmes can be monitored, and consistency can be ensured, e.g. through dedicated programme managers (see **Finding 6**).

Conclusion

The criterion is partially fulfilled.

Information Technology (Bachelor)

The bachelor's programme Information Technology spans four years for full-time study, leading to a bachelor's degree. The programme comprises a total of 240 credits, and higher education institutions are required to adhere to national regulations in offering this curriculum. The documentation specifies that the programme balances general and vocational training, ensuring that graduates are equipped with a comprehensive set of skills tailored to academic and professional demands.

According to the programme details, higher education institutions have the flexibility to determine 60 credits worth of subjects, taking into account faculty expertise, research infrastructure, and both local and international work opportunities. It is noted that these credits also accommodate optional courses designed to facilitate student participation in foreign exchange programmes, thus supporting international academic mobility.

The structure of the educational programme has been carefully developed, as indicated by the curriculum's division between compulsory and elective subjects. A balance is maintained between general and specialised coursework, with 21 credits allocated for internships and 9 credits reserved for the Final State Attestation. The programme includes 24 credits (720 hours) of general subjects and 120 credits (3600 hours) dedicated to vocational training. The SER specifies that general subjects make up 15-20% of the curriculum, while

vocational training comprises 80-85%, with 30 credits of general courses (6 of which are elective) and 180 credits of vocational training (60 of which are elective).

The programme outlines the achievement of learning outcomes at both general and specialised levels. To acquire general competencies, students complete 30 credits (900 hours), while 180 credits (5400 hours) are designated for acquiring specialised skills in areas such as project design, organisational management, scientific research, production technology, and operational services. Students engage in coursework, defend projects, and conduct independent work both in and outside the classroom under faculty guidance. It is reported that the programme also includes a 20-week internship worth 30 credits, conducted at relevant production enterprises to provide practical experience.

It is mentioned that subjects from the general section of the programme may overlap with other educational programmes, while the vocational subjects are designed exclusively for the Information Technology specialty. The elective subjects are specified to focus only on this specialty, ensuring a targeted and specialised training approach.

Expert evaluation

According to the experts' assessment, the bachelor's programme Information Technology provides a job market-oriented introduction to IT and complies with Level 6 of the European Qualifications Framework. Subsequent careers aim at programming and database development. The curriculum is up to date and offers electives that allow students to decide on their personal academic profile. In addition, the electives provide the opportunity to react to latest advancements in IT development. The lab equipment is satisfactory. However, the theoretical foundations of Computer Science and formal methods are not offered as a separate course. Instructors incorporate these topics into other courses as needed, but the experts recommend considering a dedicated class on formal methods to minimise content overlap and equip students with universally applicable methodologies (**Finding 9**).

Currently, the list of module descriptions is incomplete, particularly regarding courses taught by faculty from other departments. The available module descriptions align with specified workloads and learning outcomes. As far as documentation is concerned, the university needs to formulate and document complete course descriptions for all courses including core information such as learning outcomes, content, assessment methods, and workload (see **Finding 2**).

The programme reportedly offers language streams in Azerbaijani, Turkish, Russian, and English, allowing computer engineering studies in these languages. However, the experts found that details about the implementation of these streams are not transparent. Hence, the university should provide separate documents for each language stream, including a typical study plan and responsible staff (see **Finding 5**).

The experts positively note the precise weekly planning of each class, which is available in the LMS with supplementary documents and links. The high student success in the study programme is also noteworthy. Preparation for the transition to working life is facilitated through a mandatory internship. However, clear learning outcomes and assessment details for internships are not specified, e.g. in the course descriptions. This information needs to be documented and transparent (**Finding 10**).

AzTU would benefit from a more formalised collaboration and interaction between different departments, especially in cases in which courses are offered by other departments. The coordination procedures inside the study programme could be improved by more direct communication across departmental boundaries. Faculty members in the IT programme agree that greater exchange among lecturers – regardless of departmental affiliation – is necessary. AzTU would benefit from a more formalised collaboration and interaction between different departments, especially in cases in which courses are offered by other departments, to ensure that

all processes, responsibilities are clear, lifecycles of programmes can be monitored, and consistency can be ensured, e.g. through dedicated programme managers (see **Finding 6**).

Conclusion

The criterion is partially fulfilled.

Information Technology and Systems Engineering (Master)

The master's programme Information Technology and Systems Engineering has a standard duration of two years for full-time study, leading to a master's degree. The programme comprises a total of 120 credits, while part-time education extends to two years and six months. According to the documentation, the programme provides detailed information about specialisations within the field, ensuring that graduates acquire advanced technical and professional skills.

The SER outlines that graduates are expected to develop a broad and integrated understanding of theoretical principles and research methodologies. It is highlighted that students should be prepared to conduct scientific research, engage in pedagogical activities, and be capable of solving unexpected and complex problems within their professional field. The competencies specified are both subject-specific and interdisciplinary, aiming to prepare graduates for diverse roles in academic and professional environments.

The programme documentation details the requirements for professional activities, stating that training encompasses scientific research, pedagogy, production technology, and organisational-managerial training. It defines minimum requirements for educational content, which include subject areas, course credits, expected learning outcomes (knowledge, skills, and competencies), and competency codes, along with the overall duration of the master's programme.

It is stated that higher education institutions must provide suitable material and technical resources, such as ICT-equipped classrooms and laboratories, computer labs, workshops, etc., for conducting lectures, practical classes, and research. The SER emphasises that students should have access to essential resources, including the local network, internet, databases, and electronic libraries and search engines. It is also mentioned that faculty members should hold appropriate academic degrees, and external specialists may be involved in teaching if they meet the specified criteria. The programme requires that scientific supervision of master's theses be conducted by academically qualified staff or approved external experts.

The programme description specifies that theoretical and pedagogical training is delivered through lectures, seminars, consultations, and independent work. The SER states that various teaching methods, including oral presentations, interviews, interactive learning, independent work, discussions, round tables, illustrations, research, and laboratory and practical work, are utilised. It is reported that scientific research and pedagogical internships are crucial elements of the programme, with objectives tailored to each specialisation. Internships may be conducted in university departments or external organisations.

The curriculum is reported to include 42 credits for core courses, 18 credits for electives (for specialisation), and 60 credits for internships (8 credits for research internship, 8 credits for scientific-pedagogical internship, 8 credits for research work, 6 credits for project management), and final attestation (30 credits for master's thesis preparation and defence). The SER notes that elective courses are designed to be flexible, with higher education institutions given the ability to adapt them based on market demands, faculty expertise, and research opportunities. It is stated that these electives also accommodate students' participation in international exchange programmes.

The programme documentation highlights that the competencies students will acquire are distributed across both mandatory and elective coursework. It is specified that master's students engage in independent study

and complete assignments under the guidance of instructors. According to the SER, research tasks are integral, with dissertation topics often derived from practical challenges faced in production settings. It is reported that students present their research findings at conferences and during thesis defences. Additionally, some students are said to participate in national and international competitions, while others collaborate with instructors on various research projects.

The curriculum includes core courses across all specialisations and elective courses focused on areas such as computer communications and networking, software, architecture, and cybersecurity. It is highlighted that the programme's flexibility allows for continual updates to align with industry trends, ensuring graduates remain relevant in the job market.

The requirements for the Final State Attestation, as outlined, involve the defence of a master's thesis. The SER indicates that the Ministry of Education of the Republic of Azerbaijan sets the guidelines for the thesis content, structure, and defence procedures. It is mentioned that student assessment follows regulations approved by the Cabinet of Ministers, and successful candidates are awarded a master's degree and a state-recognised diploma.

Expert evaluation

The master's programme Information Technologies and Systems Engineering offers a curriculum that the experts regard as current and comprehensive and that complies with Level 7 of the European Qualifications Framework. It is designed to provide students with the essential knowledge and skills required for a successful career, whether in professional practice or in academia. However, not all information on the programme profile and structure is readily available to all stakeholders, especially a full set of course descriptions. As far as documentation is concerned, the university needs to formulate and document complete course descriptions for all courses including core information such as learning outcomes, content, assessment methods, and workload (see **Finding 2**).

The programme has close ties to potential employers, which are strengthened by a mandatory internship. There is an exchange with business representatives and graduates, and experts from industry actively participate in the teaching process. In addition, graduates of the programme are explicitly encouraged to participate in teaching as well. The culmination of the programme is the completion and defence of a master's thesis. It is possible to pursue further academic qualifications (participation in conferences, PhD).

According to the teaching staff, changes and updates to the curriculum are complex, and a formal change management system has not yet been established. Lecturer meetings, held monthly and chaired by the head of the department, provide a forum for all teaching staff to discuss academic matters. Modifications to the curriculum typically occur through hierarchical decision-making processes that involve governmental authorities. The faculty should develop and implement procedures allowing to incorporate updates and adjustments (due to technical or content-related developments, employer feedback, student feedback from evaluations) into the curriculum on a small scale that also involves the responsible teaching staff (**Finding 11**).

Internationalisation is reflected by several language streams of the study programme (Azerbaijani, Turkish, Russian, English), allowing studying the programme in these languages. However, the experts found that details about the implementation of these streams are not transparent. Hence, the university should provide separate documents for each language stream, including a typical study plan and responsible staff (see **Finding 5**). While some individual students participate in guest stays abroad – most commonly in Turkey – these instances currently are exceptions rather than the norm.

Conclusion

The criterion is partially fulfilled.

2. Procedures for quality assurance

Bachelor's/Master's degree

The programme is subject to the higher education institution's policy and associated procedures for quality assurance, including procedures for the design, approval, monitoring, and revision of the programmes.

A quality-oriented culture, focusing on continuous quality enhancement, is in place. This includes regular feedback mechanisms involving both internal and external stakeholders.

The strategy, policies, and procedures have a formal status and are made available in published form to all those concerned. They also include roles for students and other stakeholders.

Data is collected from relevant sources and stakeholders, analysed, and used for the effective management and continuous enhancement of the programme.

[ESG 1.1, 1.7 & 1.9]

Description

According to the SER, AzTU has implemented an extensive and structured system for quality assurance, which includes continuous monitoring, regular programme reviews, and regular feedback by internal and external stakeholders. AzTU has reportedly developed a comprehensive set of policies governing its educational programmes, including the "Quality Assurance Policy of Azerbaijan Technical University," approved on July 13, 2022. According to the documentation, this policy reflects the University's commitment to sustainable quality assurance and aligns with the University's strategic plan for 2024-2030. The Quality Assurance Department has developed a comprehensive Quality Assurance Guideline Book and a Governance Description Document defining the internal structures, responsibilities, and quality assurance procedures.

The Quality Assurance Department formulates and circulates department-level quality policies related to evaluation, curriculum development, assessment methods, stakeholder involvement, and feedback mechanisms. These policies are regularly reviewed and updated, with faculty and administrative staff receiving training and support to ensure correct implementation.

Stakeholders are involved by sending written feedback, engaging in face-to-face communication, or after student internship placement in the industry. Student surveys are conducted regularly by the Academic Department, the Career Center, the chairs, and the Deans of the Faculty, and results are said to be discussed accordingly to assess student satisfaction and employability. Students and recent graduates are said to participate in periodic surveys conducted by various university departments. The results of these surveys are said to be reviewed in faculty meetings, where decisions are made to improve the programme quality. AzTU's Career and Employment Center reportedly maintains regular contact with graduates, conducting surveys to track their employment status. It is noted that information about graduates from the last five years is submitted to the State Employment Agency for inclusion in an employment portal. The SER states that graduate employability data is used to inform curriculum development and ensure alignment with job market needs.

The Quality Assurance Department is described as overseeing a range of activities to uphold academic standards. The department collaborates with faculty members, relevant institutions, and various university departments. It is stated that the Vice-Rector for Educational Affairs manages general educational affairs, with coordination carried out by the Education Department. The SER also mentions that the University-Industry Cooperation and Lifelong Learning Center engages multiple stakeholders in the quality assurance process, ensuring that the education offered at AzTU is of high quality.

The University's quality assurance policy supports academic integrity, stating that any form of fraud or discrimination is not tolerated. According to the SER, infrastructure supporting these values has been established,

and AzTU has separate policies on academic integrity, academic freedom, and anti-discrimination measures. It is noted that these policies are designed to protect both students and staff from any form of intolerance.

Information management practices reportedly include engaging students, graduates, and labour market representatives in quality assurance. The SER describes meetings held with industry leaders and periodic labour fairs organised to connect students with potential employers. It is mentioned that labour market needs are assessed through meetings, surveys, and internship evaluations, and the information is reviewed by faculty for curriculum adjustments.

Expert evaluation

The current state of quality assurance (QA) at the university presents a complex situation. On the one hand, the institution has established a comprehensive QA policy and detailed guidelines, which include specific recommendations and instructions for action at various organisational levels. These policies and guidelines are strongly endorsed by university management.

However, the degree to which QA measures are actually implemented across the university's different hierarchical levels varies significantly. A consistent quality culture has not yet been fully established. Notably, there is a lack of a reliable and visible connection between QA processes and the work of departments and teaching staff. This gap poses challenges to ensuring that QA measures are institutionalised, secure, and transparent in their implementation. University management notes that ongoing efforts are being made to digitalise processes, which may address some of these challenges in the future. This is commendable, as the value of ongoing, feedback-driven improvement at faculty and course level is important for a consistent and integrated quality culture.

Moreover, students are not always aware of the value of course evaluations. They rely on direct consultations with lecturers, which can result in changes being made through hierarchical channels, such as the head of department. At the student level, the students' trade union acts as an advocacy organisation. Additionally, a student dean is available to bring student concerns to the attention of the head of department or the dean's office. Feedback from industry is provided via the scientific council.

The experts consider the QA methods currently in use to be insufficiently institutionalised, insufficiently transparent, and too hierarchically organised. Reliability – neither in the procedures nor in discussion of survey outcomes or in the implementation of discussion results – is not granted. Minor changes to individual courses should be possible in a timely and uncomplicated manner directly by the lecturers in charge. The experts suggest fostering a more widespread QA culture among teaching staff and students by communicating the purpose and value of QA throughout the university. The selection and implementation of appropriate survey systems are currently not sufficiently systematic and should be prioritised to support ongoing improvement efforts. AzTU therefore needs to further develop formalised QA procedures to ensure that feedback from all stakeholders is sufficiently considered and to demonstrate how evaluation results and surveys (student feedback, labour market feedback, alumni feedback) are documented, institutionalised, secure, and transparent and thereby used to develop and improve the curriculum and other components of the quality assurance cycle (**Finding 12**).

Conclusion

The criterion is partially fulfilled.

3. Learning, teaching and assessment of students

Bachelor's/Master's degree

The delivery of material encourages students to take an active role in the learning process.

Students are assessed using accessible criteria, regulations, and procedures, which are made readily available to all participants and which are applied consistently.

Assessment procedures are designed to measure the achievement of the intended learning outcomes.

[ESG 1.3]

Description

Learning and teaching

The SER outlines that teaching methods are student-centred, problem-oriented, and competency-based, incorporating both theoretical and practical approaches. It is mentioned that student assignments and graduation projects are often derived from industry-related topics or concerns, with specialised software used to enhance practical learning. The educational process is enriched by technological tools such as electronic presentations and virtual laboratories to encourage active learning.

The learning environment is described as supportive, enabling students to achieve the desired learning outcomes. Teaching and learning methods are outlined in the syllabus, which is publicly available. The university continuously reviews and improves these methods as part of its quality assurance framework. Instructors are said to use a range of teaching techniques, such as discussions and debates, presentations, group assessments, independent work/research, reports, projects, role-playing games, video and audio lectures, simulations, and expert method. The curriculum maintains a balance between theory and practical training to align with the needs of the labour market.

The university reports to have invested in modernising its facilities, has equipped lecture rooms with interactive whiteboards and established computer labs with specialised software for design and programming. Students have electronic access to educational materials, and the infrastructure supports a blended learning approach. Efforts are ongoing to develop new purpose-built classrooms to meet evolving labour market demands.

Diverse student needs are also addressed. Communication between students and faculty is facilitated through multiple platforms, including face-to-face interactions and social media channels. Special support is provided for international students, such as preparatory language courses, activities for social integration, and individual training sessions. Adaptations are made for students with disabilities, including electronic resources, online exams, and tailored teaching materials. Support for socially sensitive groups is also ensured, with state-provided financial concessions and scholarships available.

Students are actively involved in shaping their educational experience and encouraged to participate in projects, competitions, and study abroad programmes. High-achieving students receive scholarships and job opportunities from various enterprises. Students can create individual study plans and have the freedom to choose elective courses and academic advisors in line with the Bologna principles. Regular surveys collect student feedback on teaching quality, research interests, and social concerns, which are analysed to inform decisions.

Assessment

The SER specifies that student knowledge is evaluated through continuous assessment and through final exams, each contributing 50 points to the overall grade. The grading is based on a 100-point scale, with a minimum score required to pass. Exams are conducted in both oral and written form, with questions randomly selected by a computer system. Video recordings of exams are archived for quality assurance purposes.

Semester exams are organised twice a year, in January-February and June-July, with schedules drawn up a month in advance. The university ensures that students have at least two days to prepare between exams. Re-examinations are provided in two stages: one week before the exam session for students with academic debts from previous semesters, and another week after the session for those who missed exams due to valid reasons. Students can only retake an exam once, and those who fail must retake the course. Results are printed and archived accordingly.

Special provisions are made for students with health issues, such as the option to take online exams or re-schedule tests. The final assessment involves writing and defending a graduation thesis, which serves as the student's final certification under the new educational programme.

Organisation

AzTU has reportedly implemented a well-structured organisational framework to manage the educational process. Lessons are scheduled by the faculty and approved by the vice-rector for educational affairs. Classes are organised in two shifts, starting at 9:00 am for the morning shift and 1:35 pm for the afternoon shift, while master's classes begin at 6:30 pm. The Department of Educational and Methodological Work (DEMW) is responsible for conducting and supervising classes, with oversight from the Education Department.

The university has established clear procedures for student workload planning. According to the regulations approved by the Cabinet of Ministers of the Republic of Azerbaijan, full-time students are assigned 30 credits per semester, and part-time students up to 20 credits. One credit corresponds to 30 hours of work, both in and outside the classroom, with a weekly workload of 45 hours. Students with high academic performance are allowed to take additional courses, but their total credit load cannot exceed 40 credits per semester.

AzTU has also created avenues for student appeals and complaints. Students can submit complaints through meetings with the administration and deans, as well as the Department of Educational and Methodological Work (DEMW), via email, or by using suggestion boxes placed around the university. The Rector holds regular office hours, and complaints submitted electronically are reviewed by an Appeals Commission. Decisions are made based on the nature of the issue, and outcomes are communicated accordingly.

Expert evaluation

The experts gained the impression that learning and teaching in the programmes are largely oriented towards professional practice and application. Internships, project work, and case-study-based elements contribute to an interlacing of theoretical foundations with practical experience and support students in transferring knowledge to situations outside the university context. This practical orientation is further supported by organisational arrangements reported during the interviews, in particular evening teaching in the master's programmes, which enables students to combine studies with internships and employment during daytime. Overall, these elements can contribute to student motivation and engagement, as students can relate course content to real-world problems and professional contexts.

With respect to student support and student-centred learning, the experts positively note that students are reportedly accompanied by mentors/supervisors who support study planning and provide guidance throughout the programme. This mentoring structure can help accommodate different starting points and learning needs and may enable more flexible learning paths. However, the information material provided to students appears somewhat scattered, and structured study guidance (e.g. typical study plans and recommended course sequences showing feasible paths through the curriculum) is not sufficiently available. Student guidance should be strengthened through structured and easily accessible programme information, including typical study plans and recommended course sequences that help students plan flexible learning paths and understand progression (see **Finding 7**).

In terms of assessments, the university has several detailed regulations in place, which address the overall organisation of exams (especially written exams). The responsibility for the organisation and conduct of exams lies within the Educational Department and individual teachers and is clearly defined, as the experts agree. Standardised grade scales are used to grade examinations, which differ for different types of examinations, which the experts consider sufficient. Additionally, an appeals procedure is in place and well-working, as proven by several cases of appeals that have been presented onsite. An appeals committee is the main decision-making body in the procedure, which involves students to ensure a fair and transparent handling of appeals. However, stakeholders have described the detailed process differently and the documentation is also not clear in this regard. The same issue applies for overall exam regulations – while many details (such as the arrival time of teachers conducting exams or the order in which the students have to enter the exam hall) are regulated, an overall regulation is missing, addressing e.g. the time frame which an exam has to adhere to, a university-wide grading scale, the appeals procedure, a description of different types of examinations, the recognition of learning acquired outside of AzTU, measures to compensate for disabilities and similar aspects. The experts therefore require the university to establish and approve a comprehensive examination regulation, which has to be made available in all languages of instruction to all internal stakeholders, especially students, and should ideally be available to external stakeholders to ensure transparency, equal treatment, and student-centred learning (**Finding 13**).

Concerning the learning environment, the experts also note constraints that may limit the intended hands-on learning outcomes in parts of the curriculum. Laboratory equipment is partly not state-of-the-art. While existing infrastructure supports practical training to a certain extent, the practical orientation should be safeguarded through targeted upgrades of laboratory infrastructure so that hands-on learning and related assessment formats can reliably reflect current professional practice (see **Finding 4**).

In addition, although language streams in Azerbaijani, Russian, and English are reportedly offered, learning, teaching, and assessment regulations are not available consistently across all streams. From a student-centred perspective, equal access to these regulations across the languages of instruction is essential to ensure comparable learning conditions and fair assessment. The university needs to ensure that teaching, learning, and assessment regulations and policies are consistently available across all language streams (see **Finding 21**).

Conclusion

The criterion is partially fulfilled.

4. Student admission, progression, recognition and certification

Bachelor's/Master's degree

Consistently applied, pre-defined, and published regulations are in place which cover student admission, progression, recognition, and certification.

[ESG 1.4]

Description

Admission

Student admission at AzTU is reported to be centralised and regulated by the State Examination Center (SEC). It is stated that all applications and information for prospective students are managed through the SEC website. The documentation outlines that details such as the composition and number of specialities, admission criteria, tuition fees, choice of major etc. are made available by the SEC both online and in periodically published

journals. The official list of admitted students and their scores is electronically transferred to the educational institution, and these students are subsequently registered in the integrated electronic systems of both SEC and Ministry of Education. According to the guidelines, other governmental agencies, such as authorities for military deferment, can track student enrolment and academic progress through this electronic system.

According to the SER, admission requirements are defined and published by the SEC. Students are eligible for admission upon completing 11 years of secondary school or a secondary vocational school. As of the 9th grade, the system allows for the creation of a personal electronic cabinet for each student, which is used for applications and communication. High-performing graduates from secondary vocational schools may be admitted directly without competition, provided they meet the specified General Outcome Indicator (GOI).

Prospective students must complete online applications for bachelor's programmes and submit documents in person to SEC-designated acceptance commissions. It is noted that the SEC conducts entrance exams at multiple stages, assessing subjects such as the Azerbaijani language, mathematics, and foreign languages. master's programme applicants face a two-stage examination process, testing logical thinking, foreign language proficiency, and informatics.

For master's degree admissions, bachelor's holders are required to participate in the SEC-administered entrance exams, which consist of evaluating general intellectual ability and specialised knowledge. The SEC specifies that candidates must achieve the minimum scores to be eligible for selecting their major and enrolling in their desired programme. The documentation specifies that students are given the flexibility to select one of 15 technical or technological majors after completing the entrance exams. Once scores are finalised, the SEC sends this information to the students' electronic cabinets, enabling them to make informed decisions about their programme selection. All major selection procedures are carried out electronically.

AzTU reportedly adheres to a non-discriminatory admission process, ensuring equal opportunities for all applicants. Admission rules apply equally to local and international students, and education is said to be offered in multiple languages, including Azerbaijani, Russian, English, and German. The SER mentions that the admission process for international students is facilitated either through the SEC or via direct university competition, depending on the regulations.

The university provides various support mechanisms for prospective students, such as the Applicant Counseling Center and "Open Door" days. The Applicant Counseling Center offers information on student admission, the application process, and specialty selection. "Open Door" days allow prospective students to explore the university's facilities, interact with faculty members, and learn about educational programmes and opportunities.

Admission figures and the number of students at AzTU show a positive trend, while exclusion rates are said to have varied in recent years.

Progression

The progression of students at Azerbaijan Technical University (AzTU) is governed by a structured academic calendar. The academic year is divided into two semesters (fall and spring), each lasting 20 weeks, including a five-week exam period. The documentation notes that a summer semester may be organised for up to six weeks, primarily for additional learning opportunities. It also holds that full-time students must enrol in courses worth 30 credits per semester, while part-time students may take up to 20 credits. One credit is equivalent to 30 hours of work, encompassing both classroom and independent study.

Student progress is said to be monitored through analyses of student performance in exams, dynamics of participation in projects and exchange programmes, and the dynamics of the performance of employed students, among other reports. According to university regulations, students must complete all academic and

practical requirements, including examinations and internships, to qualify for the Final State Attestation, which consists of a final state exam (interdisciplinary) or the defence of a dissertation. The period allocated to the preparation and organisation of the final attestation is six weeks.

Depending on the duration of the specialisation, students are assigned 120 credits at the master's level. A student who collects the credits provided for in the educational programmes of specialisations is considered to have mastered that programme. Those who have fully completed the curriculum of the master's level educational programme in higher educational institutions are awarded the "master" higher vocational-specialty degree based on the decision of the final Specialized Scientific Council.

The SER holds that full-time students have the option to take additional courses, subject to certain academic performance criteria and payment regulations. High-achieving students who meet specific GPA requirements may enrol in additional courses without extra fees. However, the total number of credits per semester must not exceed 40.

The documentation explains that students must fulfil all curriculum requirements, including passing prescribed assessments, to be eligible for graduation. The normative duration for master's programmes ranges from 2 to 3 years, while bachelor's programmes are structured around the student's individual study plan. Upon successful completion, students are awarded a master's or bachelor's degree, depending on their level of study.

Recognition

AzTU has outlined a comprehensive recognition process, which is facilitated through an online platform. The recognition of credits is governed by regulations approved by the Cabinet of Ministers of the Republic of Azerbaijan. It is noted that credits earned by students at other institutions, either domestically or internationally, can be recognised, provided that the courses meet the criteria set by AzTU's Subject Equivalence Commission. This commission reviews the content, workload, and learning outcomes of external courses to determine their equivalency and suitability for credit transfer.

The university actively supports student mobility, encouraging participation in exchange programmes with partner institutions, primarily in Germany and Turkey. Students are offered additional support services, including language courses and career counselling, to enhance their experience in these programmes.

Competencies acquired at other educational institutions are recognised across all specialities at AzTU. The process involves obtaining prior approval from AzTU before enrolling in a course at another university. Upon successful completion, students must submit official documentation which is reviewed by the dean's office for credit allocation. As stated, students may transfer up to 30% of the credits required for their specialisation from other institutions. If a student transfers from another university, their previously earned credits are evaluated for compatibility with AzTU's curriculum. The Subject Equivalence Commission ensures that the content and workload of transferred courses match at least 75% of AzTU's requirements.

Certification

AzTU's certification process ensures that graduates receive state-recognised diplomas. Upon successful completion of their programme, students are awarded a higher professional degree and a diploma, which includes a unique identifier for verification. The documentation explains that the university rector issues an order for diploma conferral, which is then submitted to the Ministry of Science and Education and uploaded to the relevant electronic system. Graduates receive a diploma supplement, which provides detailed information about their academic achievements and is registered electronically. This supplement ensures transparency and facilitates the recognition. After completing the Final State Attestation, graduates are awarded a master's degree in the relevant field of study and a state-recognised diploma.

Expert evaluation

The experts agree that the (state-regulated) admission process is clear to national applicants and is announced at an early stage. For international students, the admission process is described on the AzTU website. Foreign language skills and subject-specific prior knowledge are said to be included in the score required for admission. Foreign language skills influence which language stream students can choose. It remains unclear to the experts how this (state-regulated) procedure works in detail. The university records the development of student numbers, broken down by gender. The proportion of females in the programmes considered is remarkably high, at consistently about 25%. The quota of state funding awarded (depending on the score achieved during admission) is also recorded. Here, continuous funding of more than 90% of first-time enrollees is noteworthy.

Regarding the recognition of learning outside of the university, the experts agree that sufficient measures are in place to acknowledge these learnings and take them into account. This especially includes recognising modules completed at universities abroad, which, as confirmed by the students, is done frequently for students going abroad. To facilitate internationalisation, the university offers a range of both partner universities that offer programmes which can be recognised at AzTU and consultation by the international office regarding students' own plans, which is deemed sufficient by the experts. However, as the university emphasises its intention to become more internationally oriented, the experts recommend strengthening the position and visibility of the international office. This could include further information for the students, e.g. by international events, exploring different opportunities for internationalisation, such as summer schools and global internships, and the continuous dedication to acquire further funds to provide scholarships and grants (**Finding 14**).

Upon completion of their studies, students are awarded a national diploma as well as a diploma supplement, providing an overview of the courses taken within the study programme. Yet, the diploma supplement does not detail what the general learning outcomes of the programme are, nor does it provide information on the higher education system in Azerbaijan, as needed for internationally recognised diploma supplements. The expert panel therefore requires the university to adapt their diploma supplement to international standardised forms, allowing easier acknowledgement of studies at universities abroad by providing more detailed information on the study programmes (**Finding 15**).

Conclusion

The criterion is partially fulfilled.

5. Teaching staff

Bachelor's/Master's degree

The composition (quantity, qualifications, professional and international experience, etc.) of the staff is appropriate for the achievement of the intended learning outcomes.

Staff involved with teaching is qualified and competent to do so.

Transparent procedures are in place for the recruitment and development of staff.

[ESG 1.5]

Description

The teaching staff at AzTU is reported to be strategically structured to meet the programme objectives, ensuring that faculty members possess the required qualifications, professional expertise, and international experience. Respective evidence is provided in the form of CVs. The selection and development processes for teaching staff are noted to follow transparent, structured guidelines aligned with national regulations.

According to institutional reports, the recruitment of teaching staff is managed by the rector and adheres to the “Unified Tariff-Position Directory of the Employees in the Field of Education,” as well as other legal frameworks. The process is governed by the “Internal Rules for Employment and Dismissal at Azerbaijan Technical University,” based on the Labor Code and the University’s Charter. The Human Resources Department coordinates recruitment activities, ensuring that procedures are properly implemented. Vacancies are announced publicly on the university’s website, social media, and job platforms, with candidates undergoing a multi-stage evaluation process. This includes assessments of professional knowledge and interviews conducted by the Recruitment Committee. Candidates for the position are evaluated on the basis of their general worldview, alignment of specialisation, knowledge level and professional preparation, and personal qualities.

It is reported that faculty members across all programmes are required to prepare annual work plans outlining their teaching, research, and organisational tasks. The plans are reviewed and approved by the department. The organisation of the teaching process, the quality of education, student engagement in research work, independent proposals for research, and social issues concerning students are regularly evaluated through surveys, and the results are discussed at department and faculty meetings. Open and master classes are conducted each semester and include the participation of students, department heads, teachers, and members of the scientific-methodological council, providing an opportunity for peer and student feedback to refine teaching methods and curricula.

A differential salary system is applied to incentivise faculty performance. Staff members receive rewards based on research output, project involvement, publications, and other achievements. According to AzTU, there are structured opportunities for faculty to participate in professional training, technical foreign language courses, training aimed at the application of interactive teaching methods and distance learning, and research projects. The university provides support for scientific research, including business trips and industry collaboration. Each academic year, teachers are encouraged to participate in an online satisfaction survey to enable exchange and the possibility to share suggestions and recommendations.

The Department of Computer Technologies oversees the Computer Engineering programmes and Information Technologies programmes. 48 academic staff members are said to be involved, including 1 professor, 15 associate professors, 24 senior lecturers, and 8 assistants. The programme benefits from both internal and external experts, with three faculty members being recruited from outside the university. It is highlighted that all faculty members have participated in professional development and training. Some are also actively engaged in national and international projects, contributing to the applied and research-oriented focus of the programme. The programmes Radio Engineering and Telecommunications Engineering as well as Electronics, Telecommunications, and Radio Engineering are managed by the Department of Radiotechnic and Telecommunications. 24 academic staff members are reportedly involved in delivering this programmes, comprising five professors, ten associate professors, six senior lecturers, and three assistants. One staff member has been recruited externally. Faculty members are noted to have undergone continuous training and have a record of participating in both local and international projects, bringing valuable industry and research experience to the programme.

Expert evaluation

The assessment of the teaching staff is based on the information provided in the self-evaluation report as well as on interviews conducted with university management, teaching staff, and students during the site visit. Overall, the available evidence indicates that the staffing situation is adequate to ensure the delivery and further development of the Computer Science programmes.

With regard to the size of the student body, the number of teaching staff involved in the programmes is appropriate. According to the self-evaluation report, sufficient academic personnel is available at both bachelor’s

and master's levels, which was confirmed during the site visit interviews. The staffing levels allow for the regular offering of courses and the supervision of students.

The university has provided a complete and transparent overview of all teaching staff involved in the programmes, including information on academic qualifications, research profiles, teaching loads, and the duration of employment. Based on the documentation and the discussions during the site visit, the teaching staff is appropriately qualified in relation to the intended learning outcomes of the programmes. In particular, the integration of lecturers with professional experience from industry is considered as a strength of the programmes, as it contributes to practice-oriented teaching and the relevance of course content.

The overall workload of the teaching staff was discussed in detail during the site visit. In the bachelor's programmes, teaching loads typically range between 14 and 24 hours per week, with a majority of staff teaching around 20 hours. In the master's programme, the teaching load is generally lower, at approximately 12 hours per week. While this workload allows for the delivery of the curriculum, it appears comparatively high for a research-oriented university. In the interviews, teaching staff indicated that the high teaching load, particularly in the bachelor's programmes, limits their capacity to engage in research activities. Since research involvement is an important factor for maintaining high teaching quality and academic development, this aspect should be carefully monitored and, where possible, addressed. The university should support and encourage teaching staff to engage in research and development projects by providing the necessary resources, autonomy, and possibilities for continuous professional development (**Finding 16**).

The availability of teaching staff for the duration of the accreditation period (six years) was not fully clarified in the documentation. However, both the self-evaluation report and the interviews suggest a generally stable staffing situation. In cases where contracts may expire, the university reported having established recruitment strategies, including the successful recruitment of qualified graduates from its own programmes, which supports continuity in teaching.

Recruitment procedures for teaching staff are defined and transparent, as outlined in the self-evaluation report and confirmed during the site visit. Clear qualification requirements are in place for internal as well as external and guest lecturers. Teaching in bachelor's programmes requires at least a master's degree, while teaching in master's programmes requires a doctoral degree. These requirements are considered a minimum but appropriate to ensure academic quality.

External and guest lecturers are integrated into the programme through regular faculty meetings, which take place on a monthly basis. These meetings serve to familiarise staff with programme objectives, curricular requirements, and organisational matters. However, interviews revealed that opportunities for cross-faculty coordination are limited. In particular, stronger coordination between faculties responsible for foundational courses (e.g. mathematics) and core computer science courses could further improve curricular coherence.

The university has defined a concept for staff development. Teaching and administrative staff have access to further training opportunities, including language courses. In addition, a staff mobility programme is available. Participation in this programme has so far been limited to approximately 10% of staff, a fact that was also addressed during the site visit interviews. The panel encourages the university to further promote participation in staff mobility and professional development measures to support internationalisation and staff development (**Finding 17**).

During the site visit, the teaching staff appeared highly motivated and committed to the programmes. The comparatively high proportion of female teaching staff was noted positively. At the same time, several areas for further development were identified. To foster professional development, teaching staff should systematically receive and use the results of student evaluations of the study programme and discuss them with students where appropriate (**Finding 18**). During interviews and meetings, only a limited number of staff were able to

actively participate in discussions conducted in English. To foster internationalisation, international collaboration, and effective research dissemination, the English language proficiency of teaching staff should be enhanced (**Finding 19**). This raises questions regarding the consistent delivery of the English-taught study track and suggests a need for targeted measures to ensure sufficient English-language teaching capacity – if the track is offered also in the future.

In summary, the teaching staff provides a solid basis for the successful implementation of the three Computer Science programmes. Strengths include adequate staffing levels, appropriate qualifications, motivated staff, and the involvement of industry professionals. Further development is recommended with regard to teaching load distribution, research engagement, cross-faculty coordination, systematic use of evaluation results, and English-language competence.

Conclusion

The criterion is fulfilled.

6. Learning resources and student support

Bachelor's/Master's degree

Appropriate facilities and resources are available for learning and teaching activities.

Guidance and support is available for students which includes advice on achieving a successful completion of their studies.

[ESG 1.6]

Description

According to the SER, AzTU offers appropriate facilities and resources for learning and teaching activities. Relevant structural departments, staff potential, teaching auditoriums, laboratories, and the library, among other resources, are provided. Mentorship and support are available for students to successfully complete their education, mainly carried out by department tutors and other colleagues.

Learning resources

The SER states that lecture rooms are adequately equipped to support teaching outcomes, featuring interactive whiteboards and specialised laboratory facilities. The labs of the department of specialisation offer equipment controlled by digital software and cutting tools, measuring devices, and other specialised devices, e.g. for metrological work. Additionally, various laboratories for Physics, Chemistry, Hydraulics and Mechanics, Electrotechnical topics, and automation are used to cater to the curriculum. Foreign languages, programming, and engineering graphics are reportedly taught in auditoriums equipped with specific infrastructure and software.

The university has equipped lecture rooms with interactive whiteboards (projectors) and established computer labs with specialised software for design and programming. Appropriate conditions have been created for teaching subjects that require digital services and technical support in educational programmes. For this, AutoCAD, Solidworks, 3D MAX, Keller, Autodesk Inventor, Ansys, etc. design, as well as computerised classrooms loaded with software such as Python, Mathcad, Matlab, Java Script, C++, and other programmes are used. Currently, work is being continued on the preparation and commissioning of new purpose-built auditoriums in accordance with the requirements of the labour market.

AzTU's Library Information Center, described in the report, provides access to a wide array of academic resources, including digital databases and open-access materials. It was mentioned that the library has

negotiated free access to databases like ACM and Edward Elgard through the Azerbaijan Library Consortium, ensuring a robust collection of journals, academic literature, and modern texts. Furthermore, the university has reportedly equipped a TUSAŞ workshop to help students develop collective engineering projects aligned with labour market demands. The university has also established the “Cezeri Lab” in collaboration with TIKA, allowing students to prepare high-quality prototypes for competitions such as Teknofest.

Student support

The university is said to have established various support structures for students. Students who study under state orders receive scholarships, with different tiers based on academic performance, and additional support is given to students from disadvantaged backgrounds. The university offers student loans on concessional terms for those enrolled in paid education, and financial aid to students with special status, such as those deprived of parental care or children of martyrs or disabled veterans of the Karabakh War, or disabled students. AzTU also offers special scholarships awarded to high-achieving students based on their admission scores.

For health and well-being, AzTU reportedly operates a Student Polyclinic offering free medical services to students and teachers, and the Student Union Committee provides vouchers for free lunches to 35 low-income students per month. Extracurricular opportunities, such as excursions, cultural events, and activities are organised by the AzTU Student Union Committee to foster a sense of community. Sports enthusiasts have access to the AzTU Sports Club, which offers training in various disciplines, and student accommodation is provided for 300 students annually in university dormitories equipped for safe and comfortable living. The AzTU Student Youth Organisation (TGT) aims to increase the networking activities among students.

The SER emphasises that foreign and exchange students receive tailored support from the International Relations Department and tutors regarding the organisation of their studies and beyond. Preparatory language courses, practical trainings, and seminars are organised, along with events celebrating national traditions and holidays. The university provides individual study plans for international students and offers excursions to explore Azerbaijan.

AzTU reportedly has a Student Scientific Society to promote research and scientific creativity. Qualified academic advisors are assigned to monitor student progress and provide academic support, while consultation hours are organised throughout the semester. Instructors are said to assist students with essays, independent assignments, and research projects, and help them prepare for thesis defences.

Career support is available through the AzTU Career Center, which assists final-year students with job search strategies, interview preparation, and career planning. The centre offers free language courses and student volunteer programmes to provide work experience (e.g. in projects within the framework of the EU, UNESCO, and other cooperation agreements). Additionally, AzTU has introduced a Student Rector position, elected annually to facilitate communication between the student body and the administration. Academic advisors (tutors) with appropriate qualifications and specialised training supervise the development of students and provide academic support.

AzTU promotes international cooperation and student mobility through partnerships with international universities and companies, in particular cooperations with universities in Turkey and Ukraine. The programmes are designed to enable students to participate in exchange programmes.

Expert evaluation

A strength of the university can be found in the organisation of lectures. The expert panel agrees that both lectures and examinations are planned in a centralised manner that ensures that there is no overlap, and respects the wishes of students in this regard. As the interviewed students detailed, the university specifically asks for preferences regarding the timing of examinations before planning and takes these into account.

Another aspect the experts would like to address is the information of students (and other stakeholders) with regards to the content of the study programmes. The university provides a curriculum, indicating all the programme contents, and syllabi, which are available for all courses and which provide information in great detail on the specific topics taught in one course. However, the experts missed a clear distinction between module/course descriptions and syllabus. The information that should be provided in these distinct types of documents is largely available in the current syllabus, which, according to the expert panel, implies certain challenges. This includes for example a very extensive process for approval of changed syllabi and therefore limited flexibility of the teaching staff, availability of these documents for external stakeholders, the specific need of information for other universities interested in a cooperation (which typically require the information found in a module description) and other issues. The existing document from the relevant Ministry which can be found on the website of the university neither provides details on the specific course learning outcomes at the university (e.g. learning outcomes that stem from the university-specific elective courses), nor does it provide any information on electives offered. In addition, a process is required to update this curriculum on a regular basis.

As already indicated, module descriptions need to be complete (regardless of the department/faculty offering the course and including internships and final theses) and must be available to internal and external stakeholders, addressing the intended learning outcomes, methods of learning and teaching, assessment methods, and the expected workload (see **Finding 2**). These should be concerned with a general and broad perspective which offers sufficient flexibility for teachers to implement minor changes in each year's course without changing the course description. Information that is true for a majority of the courses should also be regulated in further documents, such as an assessment policy regulating the grading of assessments. A transparent and clear process is to be defined and documented which ensures regular updating of the module descriptions. Lecturers already provide a syllabus for each individual course on offer, which provides detailed information on the specific course contents provided. This document does not require approval, but is instead handed out by every lecturer every year to the students taking a course, in order to inform them about the precise course contents.

From a labour-market perspective, the laboratories and ICT infrastructure provide a solid basis for practical training: during the visit, the panel observed well-equipped labs for fibre-optic cable splicing, 2G/3G network systems, and local network setups with switches and related equipment, which are highly relevant for telecommunications and networking practice. These facilities, together with the existing computer labs, LMS and software environments, enable students to gain hands-on experience with technologies that are still important in the regional market. At the same time, the equipment does not yet fully reflect the hardware needs of the newer AI-, cybersecurity- and cloud-oriented components of the programmes, as there are currently no GPU-based systems for intensive AI workloads, no ASIC-type hardware for modern cryptography applications, and no dedicated virtualisation infrastructure available for teaching. The panel positively notes that the university maintains contracts with cloud providers such as Microsoft Azure and that laboratory equipment is updated regularly and backed by comparatively good funding, which shows a clear willingness to invest. In light of these strengths, the experts encourage the university to prioritise, in its next rounds of procurement, hardware that closes these gaps, in particular GPU resources, cryptography-relevant accelerators and virtualisation platforms that can be used systematically in teaching. Therefore, AzTU is required to update labs and include more modern equipment to provide up-to-date teaching and current knowledge of technology as well as adequate and safe learning opportunities (see **Finding 4**). Such targeted investments would align the physical labs more closely with the ambitious AI-, security- and cloud-related course offerings and further strengthen the graduates' readiness for current and emerging industry demands.

When it comes to counselling and supporting students, the university offers a range of services as well. This system includes a mentoring system, where each student is assigned a mentor that serves as the first point of

contact for any inquiries, along with general counselling regarding the studies of a student. In case of specific requests by the students, both the mentor and the student can then reach out to other university services, such as the international office or the career service. The experts consider this system very appropriate, which has been proven by the students on site. However, student mobility is rather limited and students on site expressed an interest in going abroad and gaining international experience. The experts therefore recommend that the international office be more prominent and provide more information on international mobility opportunities, ensuring sufficient student support and infrastructure to encourage and enable student mobility (**Finding 20**).

As part of the career service, the university also supports students in finding placements for internships and jobs after graduation. While students are generally encouraged to apply for placements of their interest on their own, the university supports in any cases that require further assistance. With graduates, the university stays in close contact to gain further insights into the success of their job search and to improve the study programmes based on the needs of the labour market. The experts consider this a very strong aspect of the university.

Conclusion

The criterion is partially fulfilled.

7. Information

Bachelor's/Master's degree

Impartial and objective, up-to-date information regarding the programme and its qualifications is published regularly. This published information is appropriate for and available to relevant stakeholders.

[ESG 1.8]

Description

Information on the educational programmes is said to be primarily shared via the university's website and is available in English and Azerbaijani to cater to international students. The SER claims that the information is presented in a user-friendly format and downloadable.

The public relations department is said to ensure that the information is accurate and updated regularly across all platforms. The SER holds that information on the educational programmes is displayed on the website, the faculty websites, in the announcements section, during meetings with students, and on social networks. The university website includes sections dedicated to learning outcomes, admission requirements, and details about specialisation, teaching, learning, and assessment procedures. Faculty-specific pages and students' electronic cabinets are also used to share current information, often facilitated by academic advisors.

The SER outlines that a comprehensive approach is taken to ensure the dissemination and accessibility of information related to its educational programme. The Public Relations Department is tasked with overseeing the accuracy and timeliness of all information shared publicly. It coordinates with various faculties and departments to maintain consistency and accuracy across different platforms, including the university's website and social media channels. The content on the website is regularly updated to reflect any changes in programmes, faculty, or policies, ensuring that students and stakeholders receive accurate and relevant information.

Information about the scientific activities of faculty members, such as publications, conference presentations, and patents, is available through the university's Academic Teacher Search System (AMAS). Reportedly, scientific materials undergo a rigorous review process, first at the departmental level and then by the Research and Development Department and the Institute of Sustainable Development, where they are checked using

anti-plagiarism software. The Scientific Methodical Council of AzTU further reviews teaching-methodological and scientific works electronically, with expert opinions sought and decisions made accordingly.

The university ensures that information is accessible to both staff and the public. Employees have secure access to upload and review documents, while the public can access approved programme materials and requirements. Mechanisms are in place for stakeholders to provide feedback on the clarity and usefulness of the information through the AzTU website and social media platforms. AzTU TV also plays a significant role in public relations, broadcasting events, seminars, and promotional campaigns to a broad audience.

Orientation and information sessions for students are conducted through various channels, such as the university website, students' personal electronic cabinets, dean's office announcements, and social media groups like WhatsApp. The institution organises events to introduce prospective students to the university's programmes and infrastructure, supported by press collaborations to reach a wider audience.

Expert evaluation

The university uses their website as the main channel to inform external stakeholders, while additional information and documentation is available to internal stakeholders through the Learning Management System (LMS). As demonstrated on site, the learning management system as well as the website can be navigated easily, are accessible, and provide a summary of many different topics and contents. However, the experts noticed that some core information cannot be found here that is relevant to different stakeholders.

A first example is a comprehensive overview of the different study programmes. Information on these can be found in form of a single file that can be downloaded, which is however issued by the relevant Ministry of Azerbaijan and not by the university. Both the individual courses and the overall learning outcomes are currently incomplete (since this document only provides information on mandatory courses but not elective courses) and too generic, for example regarding the specifics of the university and their programmes. During the site visit, several existing policies and documents have been shown to the expert panel, yet, it was not evident that these can be accessed by all stakeholders, as they were not found on the website or in the LMS. The university needs to provide stakeholders such as (prospective) students and relevant (international) partners with a more comprehensive and systematic overview of the programmes, intended learning outcomes of all programmes, the selection procedures, the qualification awarded, and teaching, learning, and assessment procedures, and to publish and regularly update this information on the website (in all languages of instruction) **(Finding 21)**.

Furthermore, with respect to the aim of the university to become more internationally visible and attractive to students and partners, the experts identified that some information and documents is not yet available on the website. In order to market the programmes to an international target group, the experts recommend publishing core information in English and publishing a comprehensive overview highlighting the strengths and specialties of the programme to facilitate the information of interested students, both nationally and internationally, as well as a graduate profile and programme learning outcomes **(Finding 22)**.

An aspect that the experts would like to highlight positively is the availability of existing survey results to the general public without restrictions, ensuring transparent information about perceived strengths and weaknesses of different stakeholder groups. The experts encourage the university to keep publishing up-to-date information and survey results regularly.

Conclusion

The criterion is partially fulfilled.

V. Recommendation of the panel of experts

The panel of experts recommends accrediting the study programmes “Computer Engineering” (Bachelor), “Computer Engineering” (Master), “Radio Engineering and Telecommunications Engineering” (Bachelor), “Electronics, Telecommunications and Radio Engineering” (Master), “Information Technologies” (Bachelor), “Information Technologies and Systems Engineering” (Master) offered by Azerbaijan Technical University with conditions.

Commendation:

Azerbaijan Technical University offers a variety of programmes in the field of electrical engineering that are relevant and solid and linked to industry demands. A key strength of the institution and the programmes is the close connection to the local industry. The staff and management involved at the institution demonstrate a strong commitment to and identification with their university and academic discipline, and possess the appropriate academic expertise and frameworks for delivering the programmes. With a commendable commitment to further enhancing the quality of the institution, its programmes, and its learning and teaching environment, AzTU demonstrates a strong potential, not least in its solid QA department and its continuous engagement to shape a supportive learning environment for students and a sustainable relationship with the labour market.

Findings:

1. For the bachelor’s programme Computer Engineering, it is recommended to strengthen content areas, e.g. hardware-related topics such as FPGAs and security-related courses where feasible within the national framework.
2. As far as documentation is concerned, the university needs to formulate and document complete course descriptions for all courses including core information such as learning outcomes, content, assessment methods, and workload.
3. As far as documentation is concerned, university needs to formulate and document clear and outcome-oriented learning outcomes for all courses as well as a clear mapping between programme and course learning outcomes.
4. The laboratories and lab equipment must be updated and improved gradually in line with the programme’s respective profile.
 - a. For the programmes in Computer Engineering, this update applies to AI- and cloud-oriented improvements.
 - b. For the bachelor’s programme Radio Engineering and Telecommunications Engineering and the master’s programme Electronics, Telecommunications and Radio Engineering, this update applies to modern telecom practice environments (e.g. SDR and virtualised/cloud-native network labs).
5. The university should provide complete and separate documents for each language stream, including a typical study plan and information on responsible staff.
6. AzTU would benefit from a more formalised collaboration and interaction between different departments, especially in cases in which courses are offered by other departments, to ensure that all processes and responsibilities are clear, lifecycles of programmes can be monitored, and consistency can be ensured, e.g. through dedicated programme managers.

7. The transparent communication of model study paths or the provision of an idealised course plan are recommended to ensure that students have the opportunity to develop distinct profiles through the different specialisation tracks.
8. The programme Radio Engineering and Telecommunications Engineering, the university should integrate and make visible current telecom topics (including respective learning outcomes and assessable module components) and strengthen software-centric competences across the curriculum.
9. For the programme Information Technology, the university should consider a dedicated class on formal methods to minimise content overlap and equip students with universally applicable methodologies.
10. The requirements for internships are not specified, e.g. in the module descriptions, and need to be documented and transparent.
11. The faculty should develop and implement procedures allowing to incorporate updates and adjustments (due to technical or content-related developments, employer feedback, student feedback from evaluations) into the curriculum on a small scale that also involves the responsible teaching staff.
12. AzTU needs to further develop formalised QA procedures to ensure that feedback from all stakeholders is sufficiently considered and to demonstrate how evaluation results and surveys (student feedback, labour market feedback, alumni feedback) are documented, institutionalised, secure, and transparent and thereby used to develop and improve the curriculum and other components of the quality assurance cycle.
13. AzTU needs to establish and approve a comprehensive examination regulation, which has to be made available in all languages of instruction to all internal stakeholders, especially students, and should ideally be available to external stakeholders to ensure transparency, equal treatment, and student-centred learning.
14. As the university emphasises its intention to become more internationally oriented, it is recommended to strengthen the position and visibility of the international office, including further information for students, e.g. by international events, exploring different opportunities for internationalisation, such as summer schools and global internships, and the continuous dedication to acquire further funds to provide scholarships and grants.
15. The university needs to adapt their diploma supplement to international standardised forms, allowing easier acknowledgement of studies at universities abroad by providing more detailed information on the study programmes.
16. The university should support and encourage teaching staff to engage in research and development projects by providing the necessary resources, autonomy, and possibilities for continuous professional development.
17. The university should further promote participation in staff mobility and professional development measures to support internationalisation and staff development.
18. To foster professional development, teaching staff should systematically receive and use the results of student evaluations of the study programme and discuss them with students where appropriate.
19. To foster internationalisation, international collaboration, and effective research dissemination, the English language proficiency of teaching staff should be enhanced.
20. It is recommended that the international office be more prominent and provide more information on international mobility opportunities, ensuring sufficient student support and infrastructure to encourage and enable student mobility.

21. The university needs to provide stakeholders such as (prospective) students and relevant (international) partners with a more comprehensive and systematic overview of the programmes, intended learning outcomes of all programmes, the selection procedures, the qualification awarded, and teaching, learning, and assessment regulations, and to publish and regularly update this information on the website (in all languages of instruction).
22. In order to market the programmes to an international target group, the university should publish core information in English and a comprehensive overview highlighting the strengths and specialties of the programme to facilitate the information of interested students, both nationally and internationally, as well as a graduate profile and programme learning outcomes.