

Republika e Kosovës Republika Kosova - Republic of Kosovo Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



**UBT** College

### Mechatronics Engineering, MSc

### **RE-ACCREDITATION**

**REPORT OF THE EXPERT TEAM** 

February 2025, Prishtina



#### TABLE OF CONTENTS

TABLE OF CONTENTS	2
INTRODUCTION	3
Site visit schedule	4
A brief overview of the programme under evaluation	7
PROGRAMME EVALUATION	7
1. MISSION, OBJECTIVES AND ADMINISTRATION	7
2. QUALITY MANAGEMENT	13
3. ACADEMIC STAFF	17
4. EDUCATIONAL PROCESS CONTENT	19
5. STUDENTS	24
6. RESEARCH	27
7. INFRASTRUCTURE AND RESOURCES	32
FINAL RECOMMENDATION OF THE ET	37



#### 1. INTRODUCTION

#### 1.1. CONTEXT

#### Date of site visit: 12 Feb 2025

#### Expert Team (ET) members:

- Prof. Dr. Tauno Otto
- Prof. Dr. Ioannis Sarris
- Arnoldas Solovjovas, PhD Student

#### Coordinators from Kosovo Accreditation Agency (KAA):

- Leona Kovaçi, KAA Officer
- Ilirijana Ademaj Ahmeti, KAA Officer

#### Sources of information for the Report:

- Self-Evaluation Report of theMechatronics Engineering, MSc (SER);
- *CVs of the UBT staff* (26);
- Syllabus of Mechatronics MSc
- Cooperation Agreements with Industry (7)
- Subcommittees of the Faculty (8)
- Antiplagiarism reports (2)
- Labor Market 2024 Analysis
- Meeting Minutes of Ethics Committee
- Meeting Minutes of the Faculty Council Mechatronics Engineering
- Meeting Minutes\_Students
- University\_for\_Business\_and\_Technology\_-Turnitin2022-25
- UBT Homepage
- Additional documents:
  - *Recent strategies of Faculty*
  - Industrial Board meeting minutes
  - o List of KPI-s/statistics gathered about the MSc study programme 2022-2024
  - Exemplary Thesis
  - Questionnaires for the students and academic persona
  - Mechatronics Engineering Faculty Strategic Plan 2025-2030
  - Research Plan of Mechatronics Engineering Faculty 2025-2030

#### Criteria used for institutional and program evaluations

AKA | Qendra e Studentëve, kati 2-të, 10000 Prishtinë, Kosovë Tel. +381 38 213722 | Fax +381 38 213087 | www.akreditimi-ks.org

- *KAA Standards and performance indicators for external quality assurance applicable for re-accreditation of masters study program;*
- Site visit discussions with all participants in the meetings.

#### Abbreviations:

- FMM Faculty of Mechatronics Management
- UBT UBT College
- KAA-Kosovo Accreditation Agency
- ET Evaluation Team
- $SER-Self\mbox{-}Evaluation\mbox{ Report}$

#### **1.2.** SITE VISIT SCHEDULE

Time	Meeting	Participants
08:30 - 09:15	Meeting with the management of the faculty where the programme is integrated	<ul> <li>Prof. Dr. Edmond Hajrizi-Rector</li> <li>Prof. Dr. Visar Hoxha-Vice Rector</li> <li>Prof. Asst. Dr. Xhemajl Mehmeti- Dean</li> <li>Prof. Asst. Dr. Bertan Karahoda- Responsible for the Bachelor's Program in Mechatronics Engineering</li> <li>Prof. Asst. Dr. Fidan Smaili- Responsible for the Master's Program in Mechatronics Engineering</li> </ul>
09.15 - 09.55	Meeting with quality assurance representatives and administrative staff	<ul> <li>Prof. Asoc. Dr . Ylber Limani-Head of Quality Assurance Sub Committee</li> <li>Prof. Asst. Dr. Fisnik Lahu-</li> <li>MSc. Saranda Demolli-Member of Quality Assurance and Administrative Staff</li> </ul>

AKA | Qendra e Studentëve, kati 2-të, 10000 Prishtinë, Kosovë Tel. +381 38 213722 | Fax +381 38 213087 | www.akreditimi-ks.org

		MSc. Murat Rotkoceri- Quality Assurance Coordinator and Administrative Staff Artan Tahiri – Head of Administration MSc Arxhend Jetullahu-Staff
10:00 - 11:00	Meeting with the head of the study programme: Mechatronics Engineering BSc, 180 ECTS	Prof. Asst. Betim Shabani Prof. Asst. Drita Qerimi Prof. Asst. Bertan Karahoda
11:05 - 12:05	Meeting with the head of the study programme: Mechatronics Engineering MSc, 120 ECTS	Prof. Asst. Fidan Smaili Prof. Asst. Luan Mulaku
12:10 - 12:55	Meeting with teaching staff	<ul> <li>Prof. Asst. Dr. Deniz Celcima</li> <li>Prof. Asoc. Zhilbert Tafa</li> <li>Lecture MSc. Roni Kasemi</li> <li>Prof. Asst. Dr. Gonxhe Bojaxhiu</li> <li>Prof. Asst. Dr. Muhamet Gervalla</li> <li>Prof. Asoc. Armend Ymeri</li> <li>Prof. Asst. Dr. Vehbi Neziri</li> <li>Dr.sc. Astrit Hulaj</li> </ul>
12:55 - 13:55	Lunch break at Campus	

13:55 - 14:45	Meeting with students	Albulena Morina Mendim Bytyqi Arlind Ymeri Edonis Hebibi Melos Gjyrefci Agensa Sopa
14:50 - 15:30	Meeting with graduates/alumni	Lirim Januzaj Dokleat Krasniqi Arbnor Dedovic Arte Nela Drenusha Verbofci Diedon Llabjani
15:30 - 16:10	Meeting with employers of graduates and external stakeholders	<ul> <li>Sherf Hyseni-Dibarcom L.L.c</li> <li>Ylber Hoxha- Industrial Automation and Research, EIZEK</li> <li>Zgjimi Gurazui- Mechanical Design Engineer, Solaborate</li> <li>Levent Zuban- Chief Technology Officer, Premium Bakery</li> </ul>
16:10 - 16:20	Internal meeting of KAA staff and experts	
16:20– 16:30	Closing meeting with the management of the faculty and program	
16:30- 16:50	Visiting Facilities	

#### **1.3. A BRIEF OVERVIEW OF THE PROGRAMME UNDER EVALUATION**

The Master of Science (MSc) in Mechatronics Engineering at UBT is a two-year graduate program designed to provide advanced interdisciplinary knowledge in mechanical engineering, electronics, control systems, and computer science. The program follows an integrated approach that prepares students for careers in automation, robotics, artificial intelligence, and smart manufacturing. The Mechatronics Engineering MSc program is offering 120 ECTS credits. It is a full-time program with an annual student capacity of 50 students. Upon completion, graduates earn the academic degree Master of Science in Mechatronics Engineering.

#### 2. PROGRAMME EVALUATION

#### 2.1. MISSION, OBJECTIVES AND ADMINISTRATION

### Standard 1.1 The study program is in line with the higher education institution's mission and strategic goals, needs of society and it is publicly available. (ESG 1.1)

The MSc in Mechatronics Engineering at UBT directly supports the institution's mission of providing high-quality engineering education that integrates theoretical knowledge with practical applications. The curriculum is characterized by interdisciplinary learning, fostering research excellence and professional development. The program offers advanced courses in robotics, industrial automation, control systems, and mechatronics system design, supporting UBT's goal of academic innovation.

In SER there is mentioned pursuing external grants and industry partnerships, , but without explaining how each specific partnership goal will be achieved, measured, or monitored—particularly in terms of the strategic approach, defined success metrics, and processes for ongoing evaluation that would ensure each collaboration meaningfully advances both the program's financial sustainability and its industry relevance (SER p 126-127). Regarding the Research Plan (2025-2030) for Mechatronics Engineering Faculty it is well-structured but needs financial clarity and a stronger publication strategy to maximize its impact. It lacks explicit strategy for increasing journal publications. Also, there is no clear funding targets or budget allocation.

The MSc program is designed to meet regional labor market demands, addressing a notable shortage of mechatronics expertise in Kosovo and the Western Balkans. The curriculum development process integrated labor market analysis and direct feedback from local industries, ensuring relevance and practicality. Practical training in robotics, embedded

systems, and advanced mechatronic applications provides students with competencies directly transferable to both local and international industrial contexts.

The MSc program's intended learning outcomes (LOs) are transparent, publicly accessible, and clearly articulated on UBT's website. LOs emphasize innovation, leadership, and technical proficiency, aligning closely with the institution's mission of developing skilled professionals capable of addressing complex engineering challenges. Graduates are trained to lead and innovate within diverse industrial environments, equipped with advanced skills in designing and implementing mechatronic systems.

There is a Strategic Plan (2025-2030) for MSc Mechatronics Engineering. It provides a strong foundation but lacks key elements for effective implementation and accountability. Specifically, there is no financial projections or resource allocation, no graduate employment tracking or alumni engagement plans, and no strategy for online learning or virtual labs.

UBT strategically plans to admit approximately 50 students annually into the MSc program. The established student-to-staff ratio of approximately 1:10 ensures high-quality education, personalized student engagement, and effective faculty-student interaction. Available infrastructure and qualified academic staff sufficiently meet instructional demands, supporting a balanced delivery of theoretical and practical education. Given the strong labor market demand for mechatronics professionals in the region, the program's enrollment number is justified, sustainable, and responsive to market needs.

The planning feedback is arranged by student questionnaires. The questionnaires are useful for measuring faculty performance but lack depth for evaluating course quality, industry alignment, research engagement, and student progress. Regarding provided academic staff questionnaires, those are useful for evaluating faculty job satisfaction and institutional governance, but lack depth in research, professional development, and work-life balance.

The MSc program benefits from comprehensive, state-of-the-art facilities, directly enhancing educational outcomes. Specialized laboratories in automation, robotics, and control systems enable practical skill development and hands-on learning. Real-world projects integrated into the curriculum allow students to apply theoretical knowledge practically, increasing employability and technical competence. Modern classrooms equipped with advanced instructional technologies foster interactive, engaging, and effective learning experiences. UBT's investment in advanced infrastructure demonstrates a firm commitment to maintaining high academic standards and supporting research-driven innovation.

Standard 1.2 The study program Is subject to policies and procedures on academic integrity and freedom that prevent all types of unethical behaviour. The documents are publicly available, and staff and students are informed thereof. (ESG 1.1)

The MSc in Mechatronics Engineering at UBT has established comprehensive policies and mechanisms aimed at preventing plagiarism, academic dishonesty, and discrimination. These policies, including UBT's Code of Ethics, the Regulation on Anti-Plagiarism, and the Student Handbook, are publicly accessible and communicated clearly to both staff and students.

All student submissions, including theses, projects, and coursework, are systematically checked using Turnitin. The institution clearly defines thresholds for plagiarism, categorizing similarity below 10% as generally acceptable with feedback provided, 10%-20% as requiring revision and resubmission, and above 20% as clear plagiarism, necessitating significant modifications prior to resubmission.

UBT defines ethical standards for teaching and research, ensuring comprehensive awareness among all stakeholders. Ethical guidelines are well presented within UBT's Code of Ethics, Research Policy, and Student Handbook, all publicly available documents. Students receive mandatory training in academic integrity, proper citation practices, and research ethics through orientation programs and dedicated coursework such as the Research Methods course. The course syllabi explicitly address ethical research expectations, integrating ethical practices into student learning processes.

The MSc program at UBT employs a robust framework for monitoring and managing potential unethical behavior among students, faculty, and staff. Annual ethics workshops further promote awareness and adherence to institutional integrity policies. Additionally, UBT documents anonymized case studies and examples of resolved ethical cases, reinforcing the institution's transparent and proactive approach to ethical governance.

# Standard 1.3 Relevant information is collected, analysed and used to ensure the effective management of the study program and other relevant activities and such information is publicly available. (ESG 1.7)

The MSc in Mechatronics Engineering at UBT utilizes a structured information management system to collect and analyze relevant data, including key performance indicators (KPIs) related to student performance, faculty workload, course effectiveness, and research outputs. However, when looking to provided MSc Mechatronics Engineering KPIs Document, it included key indicators such as student enrollment, graduation rate, exam pass rate, student satisfaction, research activity, and mobility, which are essential for evaluating program success. It also provided multi-year data (2022–2025), enabling trend analysis. The document listed raw numbers, but it did not provide interpretations of trends or comparisons to benchmarks. No target KPIs were set—there was no strategic goal-setting. Also industry collaboration was

missing (e.g., number of industry-funded projects, internships, or employer satisfaction). Research quality was not measured—the document did not differentiate between low-impact and high-impact publications.

UBT adheres strictly to Kosovo's Law on Data Protection (Law No. 06/L-082), ensuring the confidentiality and security of student and faculty data. Policies clearly define data access limitations, granting viewing permissions exclusively to authorized personnel. A designated Data Protection Officer (DPO) within the Student Affairs Department supervises compliance, overseeing the implementation of robust security measures such as encryption and secure data storage. Students are explicitly informed of their rights concerning data protection, including access, rectification, and deletion of personal records, thus upholding transparency and trust in the institution's data management practices.

UBT ensures active involvement of students, faculty, and industry representatives in evaluating and refining the MSc in Mechatronics Engineering program. Regularly administered student surveys and organized focus groups facilitate the collection of feedback on course quality, workload balance, and instructional effectiveness. Faculty members actively participate in analyzing survey results and proposing curriculum revisions, enhancing teaching methodologies, and developing strategies for increased student engagement. Industry partner consultations regularly occur to ensure curricular alignment with current labor market needs, thereby maintaining the program's practical relevance and responsiveness to career opportunities for graduates.

The MSc program benefits from the support of an institutional Quality Assurance Coordinator, responsible for monitoring adherence to academic and administrative quality standards. This coordinator closely tracks program effectiveness, including the achievement of learning outcomes and teaching quality. Regular internal audits and accreditation reviews ensure alignment with national and international quality standards. Faculty members receive ongoing training in quality assurance practices, further reinforcing the systematic enhancement of academic and institutional performance.

The MSc program employs the Plan-Do-Check-Act (PDCA) model to systematically drive continuous quality improvements. The planning stage includes developing improvement plans based on stakeholder feedback. Implementation involves specific actions, such as curricular updates and instructional improvements. Regular evaluations assess the impact of these interventions on student outcomes and satisfaction. Results are thoroughly analyzed, leading to further refinement in subsequent cycles. This structured approach ensures the long-term sustainability and consistent enhancement of program quality.

UBT proactively uses data analyzed to ensure the MSc program remains current with academic trends and industry demands. Annual reviews, incorporating student performance metrics,

alumni employment data, and industry feedback, inform continuous curriculum updates. Graduate employment outcomes guide career services and curriculum adjustments, enhancing student employability. Regularly published quality assurance reports summarize key insights and improvement actions, contributing to institutional transparency and demonstrating accountability.

UBT prioritizes transparency by openly sharing monitoring outcomes, evaluations, and subsequent action plans with all stakeholders. Annual program evaluations, clearly outlining implemented improvements based on feedback, are publicly accessible via the institution's website. Detailed updates on program enhancements are communicated regularly to students and faculty through meetings and official communication channels. External stakeholders, including industry partners and accreditation authorities, receive comprehensive progress reports, reinforcing collaborative efforts toward quality assurance and institutional accountability.

## Standard 1.4 The delivery of the study program is supported by appropriate and sufficient administrative support to achieve its goals in teaching, learning, research, and community service. (ESG 1.6)

The MSc in Mechatronics Engineering at UBT operates under a comprehensive policy and regular review process designed to ensure effective administrative support for academic operations, research initiatives, and community service projects. The administrative framework includes regular evaluations to monitor its effectiveness in achieving the program's educational and strategic objectives. Additionally, UBT ensures financial stability through careful planning and resource allocation, covering faculty salaries, infrastructure maintenance, and academic development, ensuring the sustainability and quality of the MSc program.

The delivery of the MSc program at UBT is effectively supported by sufficient administrative personnel, ensuring efficient management and coordination. Key administrative roles, including the Dean, Program Coordinator, and Quality Assurance Officer, are clearly defined and staffed to adequately support teaching, research, and student-related activities. The Program Coordinator oversees critical academic tasks, such as scheduling, managing student inquiries, and organizing academic events. The Quality Assurance Officer ensures compliance with both institutional policies and accreditation standards. Administrative staff also provide comprehensive student services, including course registration, academic advising, and support for research projects, thereby facilitating smooth and efficient program delivery.

UBT invests in ongoing professional development for administrative staff to enhance their efficiency and effectiveness in supporting the MSc program. Administrative personnel

regularly participate in structured professional development activities, such as training sessions on student services, academic administration, and the integration of technology in educational management. Staff members are actively encouraged to attend external workshops and conferences focusing on academic support services, effective communication, and administrative technologies. This continuous professional development ensures administrative efficiency, adaptability, and high-quality service delivery.

UBT structurally integrates administrative staff into continuous professional development programs that address evolving administrative and educational needs. Training includes proficiency in IT tools, Microsoft Office, academic software platforms, and language skills enhancement, equipping staff with essential competencies required for efficient program administration. Administrative personnel regularly participate in language training, IT skills courses, and targeted professional development activities. These programs ensure administrative staff remain competent and capable of effectively supporting academic, research, and community engagement objectives of the MSc in Mechatronics Engineering.

### Standard 1.5 The recommendations for quality improvement of the study program from previous internal and external quality assurance procedures are implemented. (ESG 1.10)

Previous evaluation report recommended to "Develop a mission and vision for the program, which is not interchangeable with any program of any HEI in the European higher education area and helps to sharpen the profile" and "Define a clear didactic and research concept, which supports your mission and vision". The mission and vision for the Mechatronics Engineering program exist and are publicly available on the UBT website. However, the recommendation also requires uniqueness, ensuring the mission is not interchangeable with any other HEI in the European Higher Education Area (EHEA). The current mission and vision focus on interdisciplinary engineering, research excellence, and industry collaboration, which are standard features of most engineering programs in Europe. The program's mission and vision should differentiate it from others by highlighting unique aspects such as a specialized research focus (e.g., AI-driven mechatronics, smart automation systems) or distinct industry partnerships that are exclusive to Kosovo. Also, the SER does not explicitly define a unique didactic (teaching) and research concept that aligns with the mission and vision. There is mention of project-based learning and interdisciplinary collaboration, but no clear framework that distinguishes it from other similar programs. The faculty is involved in research projects related to robotics, automation, and AI, but there is no dedicated research strategy or Mechatronics related research group explicitly stated to support the mission.

#### **ET recommendations:**

- 1. Revise the mission statement to emphasize the program's unique value proposition. Timeline: August 2025.
- 2. Add industry, research, financial, and career tracking metrics to strategic planning. *Timeline: September 2025.*
- 3. Add workload analysis, research engagement, and learning outcome assessment to student questionnaires to make it a more effective strategic tool. Timeline: September 2025.
- 4. Add research tracking, workload stress measurement, and international mobility assessment to academic staff questionnaires to improve its strategic value. Timeline: September 2025.
- 5. Improve strategic plan by clearer KPIs, funding strategies, research expansion, industry engagement, and digital education initiatives to be fully effective and making the MSc Mechatronics Engineering program globally competitive and future-proof. Timeline: December 2025.
- 6. In Research Plan define a funding & budget allocation plan and develop a research publication strategy with measurable output targets. Timeline: March 2026.

#### **2.2. QUALITY MANAGEMENT**

## Standard 2.1 The study program delivery is subject to an established and functional internal quality assurance system, in which all relevant stakeholders are included. (ESG 1.1)

UBT has established key documents outlining its internal quality assurance system, including the Quality Assurance Policy and the Quality Assurance Manual. These documents align with national regulations, European Standards and Guidelines, and other international standards. The Quality Assurance Policy, as described in the SER, defines how quality is ensured across UBT, covering academic, research, and administrative areas. Meanwhile, the Quality Assurance Manual serves as a guideline for various stakeholders, reinforcing the importance of maintaining high standards in all activities (SER p. 30). When ET meeting with Quality Management group a translator was needed, however quality management is very international topic and better language skills would be beneficial.

The Quality Assurance Manual details all aspects related to the delivery of study programmes, including teaching quality, learning outcomes, and research. It also outlines procedures for

course evaluation, faculty assessment, and continuous improvement (SER p. 30). To ensure proper implementation, each faculty has a Quality Assurance Coordinator, whose primary responsibility is to monitor study programmes.

Initially, the expert panel found the structure of responsibility for study programme quality somewhat unclear. However, during the site visit, it was clarified that heads of study programmes are the first line of quality assurance, overseeing syllabi, learning outcomes, assessment methods, laboratory work, and stakeholder engagement. After their review, the process moves to Quality Subcommittees, with the Faculty Council serving as the final decision-making body. The expert panel found this structure to be a standard and effective approach, with no significant need for modification.

The Plan-Do-Check-Act (PDCA) cycle is a key element of the faculty's quality improvement process. It starts with stakeholder meetings and feedback sessions, such as when designing a new module. The next stage involves execution—implementing and teaching the syllabus. The internal quality assurance system continuously monitors and identifies areas for improvement. The cycle concludes with a developed Quality Assurance Action Plan, overseen by the Quality Subcommittee, which ensures the process is carried out effectively.

In conclusion, the expert panel believes that UBT has developed a strong and functional internal quality assurance system. There is clear evidence that quality assurance is not just a set of formal documents but an embedded culture, where all stakeholders actively understand and fulfill their roles.

## Standard 2.2 The study program is subject to a process of design and approval established by the HEI. (ESG 1.2)

According to the Self-Evaluation Report (SER), every newly developed study programme at UBT must go through a structured internal procedure. The first step ensures that the programme aligns with UBT's mission and strategic goals. The development process involves multiple stakeholders, including teachers, social partners, students, and alumni, to ensure a comprehensive and relevant curriculum. Additionally, the programme must equip graduates with the skills needed for state-of-the-art research and technological advancements.

The design process begins with feedback collection, particularly from industry partners, to ensure that graduates will meet labor market demands. Programme developers also conduct market analyses to track technological trends. The expert panel was particularly interested in whether UBT relies primarily on industry partners' feedback when designing or updating study programmes. It was clarified that while UBT considers industry feedback, it does not

automatically incorporate all suggestions, as its programmes are designed with broader academic and research objectives in mind.

Once a programme is designed, it undergoes multiple approval stages within UBT. First, the Faculty's Sub-Committee analyzes the general structure and learning outcomes and collects stakeholder feedback. The programme then moves to the Council of the Faculty, which serves as the final approval stage at the faculty level. After that, it is reviewed by the Academic Council and the Quality Committee, the last steps in UBT's internal quality assurance process. Once these approvals are obtained, the programme is submitted to the national quality assurance agency for external expert evaluation.

Furthermore, UBT has established Key Performance Indicators (KPIs) to monitor study programme quality. These KPIs cover outcome, process, and input indicators, including student enrollment, graduation rates, and satisfaction levels, ensuring continuous improvement and alignment with institutional goals.

## Standard 2.3 The study program is periodically monitored and reviewed to ensure its objectives are achieved. The monitoring of the study program involves stakeholder participation. (ESG 1.9)

During the site visit, the expert panel observed that the study programme is constantly monitored to ensure it remains up-to-date and relevant. The panel was particularly interested in how this monitoring process is conducted. According to the findings, continuous stakeholder involvement plays a key role. This includes common projects, consultations with labor market stakeholders, various surveys, and feedback sessions. The expert panel believes that regular formal and informal meetings with industry partners help maintain the programme's relevance in the labour market. Industrial partners provide feedback regarding graduates' skills, emphasizing the importance of advanced practical abilities and research capabilities. The SER highlights several programme improvements, such as enhanced research opportunities, internships, and stronger industry collaborations.

The quality sub-committee plays a crucial role in evaluating the study programme. It ensures that ECTS credits align with the actual workload, reviewing this aspect before the start of each semester to maintain a coherent flow of topics (SER p. 35). Additionally, this sub-committee assesses teachers' evaluation methods and the relevance of academic literature. Feedback is collected from both students and teachers, and the expert panel was pleased to find that the sub-committee proactively analyzes feedback and takes action when necessary.

Stakeholder engagement is primarily facilitated through feedback mechanisms and survey systems, targeting students, graduates, teachers, employers, and staff. The expert panel was curious whether this process might lead to stakeholders receiving excessive surveys, making

them reluctant to participate. However, during the site visit, no stakeholders expressed concerns about survey fatigue. Instead, they noted that surveys are conducted efficiently, and the results are presented afterward, reinforcing the perception that stakeholder feedback is valued and utilized in decision-making.

At the master's level, student internships serve as a vital link between theoretical knowledge and real-world applications (SER p. 37). The expert panel inquired about the monitoring system for internship quality. It was confirmed that questionnaires are distributed to students, mentors, and industry stakeholders (employers) to identify areas for improvement. Additionally, students must submit detailed reports outlining their activities, learning outcomes, reflections, and experiences, which are then reviewed by academic staff. Mentors play a key role in ensuring that students' academic and professional goals are well-aligned.

All stakeholder data is compiled into the Annual Faculty Quality Report, which identifies improvement areas. Alongside this report, UBT has developed a quality improvement action plan outlining specific actions to address these issues. These documents are publicly available on the UBT website, ensuring transparency and accountability.

### Standard 2.4 All relevant information about the study program is clear, accurate, objective, up-to-date and is publicly available. (ESG 1.8)

The ET reviewed the availability of key regulations and policies related to study processes, including study regulations, quality assurance principles, and guidelines for syllabus development. It was confirmed that all necessary documents are publicly accessible on the UBT website. Additionally, information on admission criteria, recognition of qualifications, enrolment quotas, syllabuses, learning outcomes, credits, assessment methods, and final qualifications is also published online.

The ET was particularly impressed by the transparency of statistical data, as information regarding dropout rates, pass rates, and employment rates is readily available. The ET found the low dropout rate—below 5%—remarkable, indicating that UBT's monitoring system is functioning effectively. Furthermore, the employment rate is strikingly high, reaching 95% (SER p. 40).

Similarly, essential details about the programme's mission, learning outcomes, syllabus, and admission requirements are easily accessible to prospective and current students.

#### ET recommendations: None

#### 2.3. ACADEMIC STAFF

# Standard 3.1 The study program delivery is supported by teaching staff who are recruited in line with national legislation, and internal regulations in effect, and it is based on objective and transparent procedure. (ESG 1.5)

The study program delivery is supported by teaching staff who are recruited in line with national legislation, and internal regulations in effect, and it is based on an objective and transparent procedure.

Faculty recruitment at UBT follows national legislation and internal policies, ensuring a structured and transparent hiring process. Open positions are advertised publicly, and the selection of candidates is based on predefined academic and professional criteria.

The recruitment process involves an evaluation committee that assesses candidates based on academic qualifications, research output, and teaching experience. The transparency of hiring procedures ensures that selected faculty members meet the academic requirements for delivering the MSc program.

While full-time faculty members hold PhD degrees in relevant fields, the program also integrates external lecturers with industry experience to bridge the gap between academia and professional practice. However, faculty research output, particularly in high-impact journals, is moderate, with a focus on conference papers rather than indexed journal publications.

## Standard 3.2 The study program is supported by sufficient permanent academic staff who are adequately qualified to deliver the study program. (ESG 1.5)

The study program is supported by sufficient permanent academic staff who are adequately qualified to deliver the study program. The MSc program benefits from a stable core of full-time academic staff, ensuring program sustainability and research continuity. The student-to-staff ratio is appropriate, allowing for effective mentorship and academic guidance.

Despite the qualifications of the teaching staff, research engagement in international projects and funding opportunities is limited. Faculty members engage in interdisciplinary collaboration but lack strong participation in Horizon Europe or Erasmus+ research consortia. Strengthening participation in international research networks would improve faculty expertise and enhance the program's reputation.

Standard 3.3 The study program is supported by teaching staff who are subject to advancement and reappointment based on objective and transparent procedures which include the evaluation of excellence. The advancement of staff arises from the higher education institution's strategic goals and is in line with the legislation and internal regulations in effect. (ESG 1.5)

The study program is supported by teaching staff who are subject to advancement and reappointment based on objective and transparent procedures which include the evaluation of excellence. The advancement of staff arises from the higher education institution's strategic goals and is in line with the legislation and internal regulations in effect.

UBT has a documented system for faculty promotion and reappointment, ensuring career progression based on teaching performance, research impact, and institutional contribution. Faculty members undergo periodic performance reviews based on student evaluations, research output, and professional activities.

While promotion criteria exist, the effort to encourage faculty publications in high-impact journals is moderate. Faculty engagement in research projects is not fully aligned with European academic best practices, and the lack of institutional incentives for research productivity may hinder professional advancement.

## Standard 3.4 The academic staff engaged in the delivery of the study program is entitled to institutional support for professional development. (ESG 1.5)

The academic staff engaged in the delivery of the study program is entitled to institutional support for professional development. UBT provides opportunities for faculty development, including training programs and access to research funding. The institution supports participation in professional conferences and interdisciplinary projects. However, structured participation in major EU-funded research projects remains low. Not all academic staff are engaged in international activities, and no formalized tracking of participation exists.

While faculty members receive funding for conference attendance, the institution could strengthen its support by facilitating participation in collaborative research initiatives, offering seed grants for research, and promoting academic mobility programs such as Erasmus+.

While UBT encourages faculty research, there is no structured research plan that ensures annual research goals per faculty member, support mechanisms for obtaining funding, nor dedicated mentoring programs for research development.

Standard 3.5 External associates who teach at the study program have adequate qualifications and work experience for the delivery of the study program and achievement of the intended learning outcomes. (ESG1.5)

External associates who teach at the study program have adequate qualifications and work experience for the delivery of the study program and achievement of the intended learning outcomes. External associates contribute to the MSc program by providing industry-relevant expertise. Their qualifications align with program objectives, ensuring students gain exposure to applied engineering knowledge.

However, the involvement of external lecturers is not formally integrated into the institution's quality assurance framework. Establishing clear performance review criteria and structured collaboration with full-time faculty would enhance the coherence of teaching across courses.

#### ET recommendations:

- 1. Strengthen institutional support for research and publications by incentivizing publications in indexed journals and increasing participation in international research projects. Timeline: June 2026.
- 2. Enhance faculty development programs by introducing structured research mentorship, EU project participation, and collaborative research funding initiatives. Timeline: December 2025.

#### 2.4. EDUCATIONAL PROCESS CONTENT

Standard 4.1 The study program intended learning outcomes are formulated clearly, precisely, and comprehensively according to the best practices; they are aligned with the published institution's/academic unit's mission and strategic goals and are publicly available. (ESG 1.2)

The intended learning outcomes (ILOs) are formulated with clarity and precision, ensuring alignment with the institution's mission, strategic goals, and international best practices. The program emphasizes advanced technical knowledge, interdisciplinary problem-solving, research methodology, and industry-driven applications.

The learning outcomes are structured to develop critical thinking, analytical skills, and innovation in mechatronics-related fields such as automation, robotics, control systems, and

smart manufacturing. They incorporate both theoretical depth and applied expertise, ensuring that graduates are well-equipped for academic research and industrial challenges.

The ILOs are publicly accessible through the program website, course syllabi, and academic regulations, ensuring transparency for students, faculty, and stakeholders. Each course syllabus explicitly states the specific competencies, knowledge areas, and expected student achievements, creating a structured roadmap for academic and professional development.

However, while the general program-level learning outcomes are well-articulated, there is a lack of structured mechanisms to assess their direct impact on student achievement. A more comprehensive assessment strategy, incorporating longitudinal tracking of graduates, external stakeholder feedback, and alignment with evolving industry trends, would enhance the program's responsiveness to technological advancements.

# Standard 4.2 The study program intended learning outcomes comply with the National Qualification Framework and the European Qualifications Framework level descriptors. (ESG1.2)

The study program is fully aligned with both the National Qualifications Framework (NQF) of Kosovo and the European Qualifications Framework (EQF Level 7), ensuring that graduates possess competencies equivalent to other accredited master's programs across Europe. The program also adheres to Bologna Process guidelines, ensuring compatibility with international academic and professional mobility standards.

The curriculum is structured to develop advanced theoretical knowledge, applied engineering skills, and research expertise, consistent with EQF Level 7 descriptors, which emphasize high-level problem-solving, innovation, and independent research capabilities. The coursework integrates complex engineering methodologies, interdisciplinary applications, and emerging trends in automation, robotics, and AI-driven mechatronics systems.

Additionally, the program is designed to align with sector-specific qualification frameworks, incorporating competencies mapped to the European Skills/Competences, Qualifications, and Occupations classification system. This ensures that graduates acquire theoretical depth and hands-on expertise in key domains such as intelligent control systems, machine learning for automation, industrial robotics, and embedded systems design.

While the overall alignment with NQF and EQF is well-established, the curriculum would benefit from a more structured alignment with industry certifications, ensuring that students gain both academic credentials and industry-recognized competencies.

## Standard 4.3 The content and structure of the curriculum is coherent and enable the students to achieve the intended learning outcomes and to progress smoothly through their studies. (ESG 1.2)

The study program follows a logically structured curriculum, ensuring a progressive acquisition of knowledge, skills, and research competencies. The program is designed to provide a strong theoretical foundation while integrating applied engineering practices, allowing students to transition smoothly from fundamental principles to advanced interdisciplinary problem-solving.

The curriculum consists of compulsory and elective courses, distributed across two academic years (120 ECTS), in alignment with European Higher Education Area (EHEA) standards. The coursework covers key areas of mechatronics, including advanced control systems, industrial robotics, artificial intelligence in automation, and real-time embedded systems. A research-oriented approach is emphasized, ensuring that students develop analytical thinking, modeling expertise, and experimental skills through lab-based learning and thesis work.

To enhance flexibility, students can customize their specialization through elective courses and research projects, allowing them to focus on intelligent automation, smart manufacturing, or biomedical mechatronics. The program integrates industry collaborations, offering internships, guest lectures, and applied research opportunities, bridging the gap between academic knowledge and professional practice. While research is embedded in the curriculum, structured interdisciplinary research projects that promote collaboration across engineering fields could be further expanded.

## Standard 4.4 If the study program leads to degrees in regulated professions, it is aligned with the EU Directives and national and international professional associations. (ESG 1.2)

The study program aligns with European and national professional standards and is structured to meet the requirements for regulated engineering professions in Kosovo and the broader European Higher Education Area. While mechatronics engineering is not strictly regulated at the European level, the program incorporates ISO, IEC, and IEEE standards for industrial automation, control systems, and robotics.

The program's curriculum ensures that students acquire the technical, analytical, and professional competencies required to pursue engineering licensure where applicable. Courses are designed to provide a deep understanding of mechatronics systems, including intelligent control systems, human-machine interaction, and smart manufacturing—fields closely linked to global industry and professional standards.

Students are prepared to meet industry expectations through internships, industry collaborations, and project-based learning, which reflect real-world engineering challenges.

The program incorporates knowledge of international safety standards, system integration protocols, and regulatory frameworks governing automation and control systems.

However, while the curriculum covers the theoretical and applied aspects of mechatronics, it does not currently offer pathways to professional certifications widely recognized in the automation and robotics sector. Additionally, the program could benefit from closer alignment with national engineering licensing bodies to facilitate graduates' recognition as professional engineers in Kosovo and other European countries.

# Standard 4.5 The intended learning outcomes of the student practise period are clearly specified, and effective processes are followed to ensure that learning outcomes and the strategies to develop that learning are understood by students (if applicable). (ESG 1.2)

The study program includes a structured and well-defined student practice period designed to reinforce theoretical knowledge through practical industry experience. The intended learning outcomes for internships and industry placements are clearly specified in the curriculum, linking academic competencies with professional skills in automation, robotics, and intelligent control systems. The learning objectives for the practice period focus on: i) Applying engineering design principles in industrial settings; ii) Developing skills in troubleshooting, system integration, and automation control; iii) Enhancing project management and team collaboration skills in a real-world context.

The institution ensures that each student is assigned both an academic advisor and an industry mentor to monitor progress and provide guidance. Students are required to complete a comprehensive internship report, which is assessed based on predefined evaluation criteria aligned with the program's intended learning outcomes. Feedback from both the industry partner and the academic supervisor is integrated into the final assessment, ensuring that the practical training directly contributes to student development.

While the program provides some industry exposure, there is limited evidence of formalized feedback loops from industry partners regarding the effectiveness of the practice period. Additionally, the diversity of available industry placements could be expanded to include emerging fields such as biomedical mechatronics, AI-based automation, and renewable energy systems.

## Standard 4.6 The study program is delivered through student-centred teaching and learning. (ESG 1.3)

The study program is designed to adopt a student-centred learning environment that promotes active participation, independent problem-solving, and interdisciplinary thinking. The program combines theoretical coursework, laboratory work, project-based learning, and industry

collaboration, ensuring that students engage with both the academic and practical dimensions of mechatronics engineering.

Courses are structured to encourage active student involvement through problem-based learning, case studies, group projects, and real-world engineering challenges. Students are regularly tasked with analyzing complex mechatronic systems, designing automation solutions, and conducting experimental research using advanced laboratory equipment. The program also integrates digital learning platforms and simulation tools such as MATLAB, Simulink, and ROS to provide students with hands-on experience in modeling and system design.

Faculty members adopt interactive teaching methods that allow for two-way communication and student feedback during lectures and laboratory sessions. This encourages critical thinking and allows students to refine their approach based on direct feedback from instructors and peers. The curriculum also includes industry-driven projects where students work directly with professional engineers, reinforcing the connection between academic knowledge and industry applications.

While the program successfully integrates student-centered methodologies, there is limited use of hybrid and online learning options. Expanding digital learning tools and flexible learning models would improve access for part-time students and those with professional commitments. Additionally, while students are involved in project-based learning, there is limited integration of interdisciplinary collaboration with other engineering or computer science programs.

## Standard 4.7 The evaluation and assessment used in the study program are objective and consistent and ensures that intended learning outcomes are achieved. (ESG 1.3)

The study program employs a structured and transparent evaluation system designed to measure the achievement of intended learning outcomes and ensure that assessment methods are objective, consistent, and fair. The program uses a combination of formative and summative assessment techniques to evaluate student performance, ensuring a balanced approach to measuring both theoretical understanding and practical application.

The assessment methods include written exams, laboratory reports, project presentations, research papers, and oral defenses, covering a wide range of competencies such as problemsolving, analytical thinking, engineering design, and technical research. The institution has implemented standardized grading rubrics for all courses, ensuring consistency in the evaluation process across different instructors and academic terms. These rubrics are provided to students at the beginning of each course, enhancing transparency and student preparedness.

Faculty members provide detailed written and verbal feedback to students on their performance, helping them identify strengths and areas for improvement. Peer evaluation and group project assessments are also incorporated to promote collaborative learning and

professional teamwork. Additionally, thesis evaluation is conducted by an academic panel, which includes both internal and external examiners, ensuring that research quality and presentation standards are upheld.

### Standard 4.8 Learning outcomes are evaluated in terms of student workload and expressed in ECTS. (ECTS 1.2)

The study program follows the European Credit Transfer and Accumulation System (ECTS) guidelines to ensure that student workload is accurately reflected in credit allocation. The program consists of 120 ECTS credits over two academic years, with credits assigned based on the estimated time required for lectures, laboratory work, independent study, project development, and thesis research.

Each ECTS credit corresponds to 25–30 hours of student work, in line with Bologna Process standards. The workload includes a balanced mix of direct contact hours (lectures, labs, seminars) and independent study (reading, research, and project work). The program includes a mandatory research thesis (worth 30 ECTS), ensuring that students engage in substantial independent research and critical analysis.

The institution regularly monitors student workload through course evaluations, student surveys, and faculty feedback, adjusting credit distribution where necessary to maintain balance and avoid overload. However, while the overall ECTS allocation is consistent with European standards, the program could benefit from more flexibility in credit distribution by offering modular options or allowing students to adjust their workload to align with personal or professional commitments. The introduction of more structured feedback from students and alumni regarding workload expectations could further improve the accuracy of ECTS allocation.

#### ET recommendations:

- 1. Establish partnerships with global industry leaders to integrate professional certification programs into the curriculum. Timeline: December 2025.
- 2. Provide modular course options to allow students to tailor their learning paths based on career goals and specialization interests. Timeline: December 2025.

#### **2.5. STUDENTS**

Standard 5.1 Clear admission policies, including requirements, criteria and processes for the study program are clearly defined and are publicly available. (ESG 1.4)

The admission procedure is clearly defined in the SER. The candidate must successfully complete Bachelor's degree in a relevant field. There are also defined criteria for international students. They must also pass the recognition procedure of the Bachelor's degree in the Ministry of Education. The procedures are publicly available and in the SER the expert panel could find link to the previous admission call in 2024 (SER p. 92).

SER states that candidate selection procedure is run by a specific committee that consists of academics and administrative staff. During the site visit the expert panel were informed that additional entrance examinations can be conducted if the number of candidates is higher than the study places. From the SER and during the site visit the expert panel could not identify any evidence of the admission procedure somehow to be unfair or discriminating.

UBT also provides a transfer possibility for the students from other higher education institutions. According to the national regulations the similarity between the programmes must be at least of 70% to be eligible for a chance of getting transferred. The SER also provides information regarding dates for the fall and spring semesters for transferring students (SER p. 93).

## Standard 5.2 Student progression data for the study program are regularly collected and analyzed. Appropriate actions are taken to ensure the student's completion of the study program. (ESG 1.4)

During the site visit, the experts gathered enough evidence to confirm that UBT has an established system for monitoring student progression in the study programme. The administration actively tracks drop-out statistics, GPA trends, and course completion success rates (SER p. 94).

UBT organizes various feedback sessions both during and after the semester. Informal meetings can also be held throughout the semester to address existing issues and implement immediate changes for current students. It is crucial not only to collect formal feedback but also to inform the community that the data is being analyzed and that future actions will be taken to address any concerns. The students acknowledged that whenever they face issues, UBT provides all necessary support. The tutoring system, which is available during the semester or before exams, was frequently mentioned as a valuable resource to ensure that students receive the necessary guidance. The expert panel highlights this initiative as an excellent measure to reduce drop-out rates in the study programme. Furthermore, the experts believe that students are well-informed about their future opportunities, whether they continue their doctoral studies or enter the labor market.

### Standard 5.3 The study program ensures appropriate conditions and support for outgoing and incoming students (national and international students). (ESG 1.4)

UBT has established a wide range of student services, including academic consultation, career planning, tutoring, and international mobility support. Additionally, efforts have been made to integrate international students through language courses, accommodation assistance, and other support measures (SER p. 96).

Students at UBT are well-informed about the various opportunities available to them. For example, the Office for International Cooperation provides guidance on necessary documents, eligibility criteria. All relevant information is accessible on the official UBT website in Albanian and English.

The expert panel believes that mobility opportunities are well-developed for current students. UBT attracts participants through various mobility programmes, such as ERASMUS+ and partnerships with 400 universities through Memorandums of Understanding (MOUs) (SER p. 96). At the end of each mobility programme, feedback is collected from both local and international students through questionnaires. These surveys assess study conditions and satisfaction with the teachers. infrastructure, and administrative support.

The Office for International Cooperation is responsible for analyzing this data and developing plans for future improvements. In the SER, experts reviewed the number of students enrolled in international mobility programmes. 6 students participated in a short-cycle mobility programme, while 4 took part in a longer-cycle programme (SER p. 97).

Standard 5.4 The study program delivery is ensured through adequate resources for student support. The needs of a diverse student population (part-time students, mature students, students from abroad, students from under-represented and vulnerable groups, students with learning difficulties and disabilities, etc.) are taken into account. (ESG 1.6)

The expert panel believes that UBT has sufficient resources to meet students' needs. Academic consultation, technical support, and faculty assistance are at a high level. Additionally, the support system and infrastructure are adapted for students with special needs.

According to the SER, the UBT Student Support Department currently employs 20 staff members, while the Career Office has five employees. At the faculty level, study coordinators and tutors provide academic guidance. There is also a well-established IT department with 20 staff members, offering technical support, particularly for E-learning systems (SER p. 98-99).

UBT has established clear procedures for handling appeals and complaints. As stated in the SER, if a student has concerns regarding their grades, they can submit a complaint to the

Faculty Administration within 36 hours of receiving the grade. A decision will be made within the following 24 hours. Students may also submit complaints about other academic matters, such as teaching methodology or resource availability (SER p. 99).

During the site visit, the expert panel was particularly interested in how UBT informs students about its services. It was explained that new students receive an information package detailing all available support services during their integration process. Students highlighted career consultation services the most, noting that the Career Office organizes numerous meetings, workshops with labour market stakeholders, and career fairs. UBT also facilitates discussions where practical cases from the labour market are presented.

One initiative that stood out to the expert panel was UBT's tutoring system, in which students themselves take on tutoring roles to assist peers who are struggling academically. The panel believes this initiative is particularly beneficial for first-year students as they adapt to university life.

Beyond academic support, UBT also provides information about extracurricular activities, including clubs, organizations, and social events. The college campus features sports and recreational areas, allowing students to engage in campus life during study hours and afterwards.

#### ET recommendations: None

#### 2.6. RESEARCH

### Standard 6.1. The study program aligns with the institution's/academic unit's mission and the research strategic goals.

The MSc in Mechatronics Engineering at UBT aligns fully with the institution's mission of advancing research, technological innovation, and industry collaboration. The program provides high-quality, research-focused education that encourages students to engage actively in innovative and interdisciplinary research, reflecting UBT's strategic objectives of technological advancement and economic growth. The curriculum emphasizes applied research, ensuring that students acquire analytical and technical expertise relevant to contemporary engineering challenges. In ET meeting with staff members was convinced, that UBT organizes yearly conferences to give MSc students and academic staff members publishing and presenting experience.

The MSc program directly supports UBT's broader research priorities, particularly in automation, robotics, and smart manufacturing. Faculty and students collaborate on advanced, industry-driven research projects, actively participating in applied research and experimental development. Student research projects frequently align with UBT's involvement in international grants and partnerships, enhancing the university's research profile and fostering impactful academic-industry collaborations.

UBT incorporates research-based learning approaches within the MSc curriculum, offering students extensive hands-on experience with advanced technologies. The program includes research-oriented activities such as thesis projects, laboratory experiments, and practical case studies. Faculty integrate their ongoing research into course delivery, keeping students abreast of emerging trends and technologies. Students are strongly encouraged to publish research findings, participate in conferences, and engage in innovation competitions, thus building strong research skills and preparation for future careers or advanced studies.

The MSc in Mechatronics Engineering actively fosters collaboration with industry partners, research institutes, and international universities. Students participate in joint research projects with industry, gaining practical exposure to real-world technological applications. The program leverages international academic and research partnerships to provide students with broader research perspectives and opportunities for global collaboration. Internships and industry-funded projects further bridge the academic-industrial gap, enhancing the practical relevance of student research. At Industry Meeting Minutes – UBT Mechatronics Engineering (02.10.2024) the Industry Board also recommended to introduce mandatory industry internships with ECTS credits and align UBT research projects with industry priorities, focusing on automation, AI, and smart systems.

UBT prioritizes the production of high-quality research by MSc students, supporting them through dedicated research funding, advanced laboratory facilities, and academic mentoring. Students are encouraged to publish in peer-reviewed journals and present at international conferences, significantly contributing to the university's scholarly output. Additionally, comprehensive training in research methodologies, academic writing, and intellectual property management equips students with essential research competencies, ensuring that graduates are well-prepared for impactful professional and academic roles.

Standard 6.2. The academic staff engaged in the study program is committed and supported to achieve high-quality research work and/or professional activity.

UBT actively encourages and supports its academic staff in conducting impactful research. Faculty members receive research grants, dedicated laboratory access, and institutional funding to conduct cutting-edge research in areas like automation, robotics, and intelligent systems. The institution allocates specific research time within faculty workloads, promoting a balanced integration of teaching and research responsibilities. Additionally, UBT supports collaborative and interdisciplinary research projects, enhancing faculty involvement in significant scientific and technological advancements.

UBT invests significantly in modern research infrastructure, providing faculty with access to advanced laboratories, simulation software, and prototyping facilities. The institution also ensures faculty have comprehensive access to academic databases, digital libraries, and specialized research journals, keeping staff informed on emerging scientific trends. Collaboration with industry partners further enhances the practical research environment, enabling faculty to apply theoretical knowledge to real-world scenarios.

UBT actively promotes international research collaboration, encouraging faculty to participate in global projects and professional networks. Faculty are supported to attend and present at international conferences, facilitating professional growth and the establishment of academic partnerships. The institution regularly organizes international research symposia and invites international experts for guest lectures, fostering global academic connections and enhancing faculty expertise.

UBT consistently encourages faculty to produce high-quality research publications and innovations. The institution provides financial incentives and recognition for faculty who publish in high-impact, peer-reviewed journals indexed by Scopus, Web of Science, or IEEE. Additionally, regular monitoring and evaluation of faculty research activities ensure continuous improvement and alignment with both academic excellence and industry relevance.

Faculty members are supported in engaging actively with industry through consulting projects, technology transfer initiatives, and partnerships. The institution promotes involvement in professional engineering associations, standardization committees, and policy-making bodies, encouraging faculty contributions to technological governance. Faculty also actively supervises industry-oriented student projects and internships, ensuring the practical application of research outcomes and enhancing industry collaboration.

Standard 6.3 The academic staff engaged in the delivery of the study program is encouraged to participate in different aspects of cooperation with national and international partners. UBT actively promotes collaborations between its faculty members and various national and international academic institutions, research centers, and industry partners. Faculty are encouraged to participate in international programs such as Erasmus+ and Horizon Europe, facilitating valuable knowledge exchange and collaborative research projects. The institution regularly hosts international academic conferences and workshops, providing faculty members with ample opportunities for professional networking and exchange of research findings.

UBT supports faculty in engaging in joint international research projects and co-authored publications. Faculty members collaborate closely with renowned global universities and research institutions, enhancing the institution's global research presence. Financial support and recognition are provided for publications in high-impact journals indexed by Scopus, Web of Science, and IEEE. UBT also encourages international joint supervision of MSc and PhD research, enabling students and faculty to benefit from global academic expertise.

The institution supports faculty participation in various international mobility programs, including Erasmus+, Fulbright, and DAAD. Faculty members have access to short-term and long-term exchanges to gain international teaching and research experience. UBT also hosts visiting international scholars, promoting academic diversity and enhancing faculty development through exposure to global educational methodologies and research approaches.

UBT actively encourages faculty members to collaborate with industry and governmental bodies. Faculty engage in applied research and technological innovation projects, developing practical solutions for real-world challenges in automation and robotics. The institution supports faculty involvement in policy-making bodies, technology transfer initiatives, and industry consulting projects, bridging the gap between academia, industry, and government to foster impactful research and innovation.

UBT provides robust administrative and financial support to enable faculty participation in national and international cooperation efforts. The institution offers financial grants for attending international conferences, engaging in research visits, and participating in academic exchange programs. A dedicated administrative office for international relations supports faculty in grant application processes and international project management, facilitating smooth and effective participation in global academic and research collaborations.

### Standard 6.4 The teaching staff engaged in the study program has a proven record of research results on the same topics as their teaching activity.

Faculty has produced numerous peer-reviewed journal articles, conference papers, and book chapters in fields such as automation, robotics, artificial intelligence, and intelligent

mechatronic systems. Faculty expertise in research is aligned directly with subjects like control systems, embedded computing, and industrial automation, enhancing the academic rigor and relevance of the curriculum. However, there is no clear evidence of consistent high-impact research publications (Scopus, WoS, IEEE, etc.) by all faculty members. The institution offers financial incentives and support for conference participation, enabling faculty to widely disseminate their research findings and actively engage in international scholarly networks. Still, there are limited collaborative research projects with international universities and industry partners. There is no structured faculty research assessment process remaining unclear how research quality is monitored. Some faculty members are not actively publishing, reducing the link between research and teaching.

Faculty research activities at UBT are directly integrated into the teaching processes and student supervision. Faculty regularly incorporate their research outcomes into course content, providing students with current insights into engineering challenges and innovative solutions. Students participate actively in faculty-led research projects, gaining practical experience and developing research skills. Additionally, students and faculty jointly publish and present research findings, fostering a research-oriented educational environment.

UBT ensures that faculty research aligns strategically with both national technological goals and international research priorities. Faculty research projects focus on critical areas such as mechatronics, Industry 4.0, and intelligent manufacturing, directly supporting Kosovo's strategic development in technology and engineering. Faculty participate in EU-funded research initiatives such as Horizon Europe and Erasmus+, in collaboration with leading international universities, ensuring research activities are relevant, practical, and globally recognized. Still, some courses appear theoretical with limited exposure to recent advancements in the field. There is also a lack of structured guidelines ensuring faculty update their courses based on recent research. In SER was not provided clear requirement for faculty to present their latest research findings in their courses.

UBT ensures that MSc faculty members actively guide and mentor students in research, providing structured academic and technical support. Faculty supervise MSc theses, capstone projects, and industry-based research, delivering high-quality mentorship. The university promotes student-faculty research collaboration, enabling joint publications, conference presentations, and co-authored journal articles. Faculty also participate in PhD supervision and advisory committees, underscoring their commitment to comprehensive academic mentorship and leadership development.

However, when examining exemplary MSc thesis it was well structured but methodology-wise on the borderline of MSc level. It met the fundamental requirements of topic complexity and relevance but literature review lacked recent papers from top journals (IEEE, Elsevier, Springer, etc.) for comparison, the methodology did not include real-world testing requiring

stronger experimental validation, benchmarking, and novelty justification to be fully recognized as an MSc-quality thesis.

#### **ET recommendations:**

- 1. Require academic staff members teaching in MSc level to publish a minimum number of high-impact papers per year and engage in global research collaborations. Timeline: June 2026.
- 2. Establish a mandatory research-integration framework, requiring faculty to update course content with the latest research advancements. Timeline: March 2026.
- 3. Boost student research publications by implementing structured mentorship programs for MSc students to co-author academic papers with faculty, improving research visibility. Timeline: June 2026.
- 4. Enhance level of MSc Thesis by literature review requirements to use top journals from the last 5 years. Timeline: August 2025.
- 5. Introduce mandatory industry internships with ECTS credits. September 2025.
- 6. Align UBT research projects with industry priorities, focusing on automation, AI, and smart systems. Timeline: June 2026.

#### 7. INFRASTRUCTURE AND RESOURCES

## Standard 7.1. The HEI ensures adequate premises and equipment for performing education processes and research. ESG (1.6)

UBT provides modern and adequately equipped classrooms and laboratories essential for delivering the MSc in Mechatronics Engineering program effectively. Dedicated multimedia lecture halls support interactive and technology-enhanced education. Advanced mechatronics laboratories are equipped with robotic arms, control systems, embedded computing devices, and automation simulation software. Additionally, research facilities feature sophisticated testing and prototyping equipment, facilitating hands-on experimentation and enabling the development of innovative engineering solutions. These provisions ensure students and faculty experience high-quality educational and research environments.

UBT systematically invests in the continuous enhancement of its physical and digital infrastructures, ensuring alignment with contemporary technological advancements. The university allocates annual budgets for laboratory upgrades, securing ongoing student access

to industry-standard tools and technologies. New research centers specializing in automation, artificial intelligence applications in mechatronics, and industrial robotics are being developed, enhancing student research capabilities. Additionally, IT and software infrastructure is consistently updated, providing students with access to current design, simulation, and modeling tools such as MATLAB, SolidWorks, and LabVIEW. This ongoing investment supports the MSc program in meeting international standards of engineering education.

UBT ensures its educational spaces and resources are inclusive, accessible, and supportive of diverse student needs. Classrooms and laboratories are equipped with accessibility features to accommodate students with disabilities. The institution provides assistive technologies, specialized software solutions, and ergonomically designed workstations for students with mobility impairments and learning difficulties. Faculty and administrative staff regularly receive training on inclusive educational practices, ensuring equitable learning opportunities. These initiatives promote inclusivity and equal participation for all students within the educational process.

UBT integrates robust digital infrastructure to facilitate innovative educational and research methodologies. An effective Learning Management System (LMS) provides digital course materials, online assignments, and virtual laboratory simulations. Cloud-based resources grant continuous remote access to research databases, e-books, and scholarly journals. Furthermore, virtual laboratories, augmented reality (AR), and AI-driven simulation tools are implemented to enhance interactive learning and research. These digital enhancements offer greater flexibility and accessibility, fostering effective learning and collaborative research. ET was convinced when visiting Mechatronics labs including industrial robots, student projects related robotics and machine automation, smart greenhouse project, drones indoor control area, VR lab, and drone lab. Still, the lab environment needs to be upgraded further, as cobots and self-driving robot platforms or robot dogs have become a mainstream in Mechatronics MSc level education.

UBT provides dedicated, dynamic spaces to encourage student collaboration, research, and innovation. Designated group study areas, innovation hubs, and research laboratories support collaborative project-based learning. Specific rooms are allocated for MSc thesis research, prototyping, and industry-oriented projects. Additionally, UBT regularly hosts hackathons, engineering competitions, and research symposiums to foster peer-to-peer collaboration and experiential learning. These collaborative spaces effectively enhance student engagement, teamwork, and research productivity.

UBT consistently upholds rigorous maintenance and safety standards across all educational and research facilities. Laboratories and research facilities undergo regular safety inspections to ensure full compliance with engineering safety regulations and best practices. Equipment and infrastructure are routinely maintained to minimize technical disruptions and ensure

optimal operational conditions. Comprehensive emergency response systems, including fire safety measures and well-equipped first-aid stations, are implemented throughout the campus. By prioritizing safety and routine maintenance, UBT ensures a secure, efficient, and uninterrupted educational environment for students and faculty.

#### Standard 7.2 The HEI ensures adequate library resources for study program. (ESG 1.6)

UBT ensures that its library offers a comprehensive collection of academic resources, essential for supporting teaching, learning, and research within the MSc in Mechatronics Engineering program. The library's collection includes textbooks, reference books, technical manuals, and scientific journals in automation, robotics, control systems, and embedded computing. A structured acquisition plan is in place to regularly update and expand resources, ensuring students and faculty have access to the latest developments in their fields. Additionally, the library provides access to doctoral dissertations, MSc theses, and research reports, supporting students' academic research efforts.

UBT provides extensive digital resources to facilitate comprehensive research and continuous learning. The library subscribes to key digital databases such as IEEE Xplore, ScienceDirect, SpringerLink, and Scopus, ensuring students and faculty can access peer-reviewed journals, articles, and conference proceedings. E-books and online learning platforms are also available, allowing remote and flexible learning opportunities. Furthermore, digital tools including Turnitin for plagiarism detection and citation management software like Zotero and EndNote are provided, enhancing research quality and integrity.

ET was convinced to visit the library premises. The library at UBT maintains specialized literature specifically tailored to mechatronics engineering and related disciplines. The collection comprises authoritative handbooks on automation, robotics, artificial intelligence applications in mechatronics, and industrial control systems. Students benefit from access to industrial case studies, white papers, and patent databases, offering insights into practical engineering applications. Collaboration with industry experts and faculty ensures that the library continuously acquires relevant, up-to-date technical resources, aligning with the latest technological advancements.

UBT ensures that the library provides an effective environment conducive to study, research, and collaboration. Various spaces are available, including quiet study areas, group discussion rooms, and research workstations, accommodating diverse learning preferences. Research areas are equipped with high-speed internet, advanced computing facilities, and specialized software tools necessary for simulation, modeling, and data analysis specific to mechatronics.

Dedicated research spaces for faculty and research staff further enhance the quality and efficiency of research supervision and academic output.

Library staff at UBT are professionally trained to deliver effective support to students and faculty, assisting in the efficient utilization of academic resources. Regular training sessions and workshops are conducted, covering literature review strategies, effective database searches, and academic writing skills. Personalized research support services, including one-on-one consultations, citation management, and assistance with plagiarism detection, promote academic integrity and research excellence. Faculty members also receive targeted support for grant writing, research dissemination, and journal selection, helping to maximize research impact.

UBT commits to regularly reviewing and updating its library resources, ensuring alignment with advancements in engineering and technology. A faculty-led advisory committee frequently evaluates the library collection and recommends new acquisitions, ensuring resource relevance. The institution allocates funds specifically for updating textbooks, subscribing to current research journals, and acquiring new electronic databases. Additionally, regular surveys and feedback mechanisms enable students and faculty to voice their needs, helping to ensure library resources continuously match actual academic and research requirements.

## Standard 7.3 The study program is appropriately funded to deliver its intended educational activities and research. (ESG 1.6)

UBT ensures stable and sustainable financial resources for the MSc in Mechatronics Engineering, guaranteeing consistent support for educational and research activities. The funding model incorporates diversified sources, including tuition fees, external research grants, industry partnerships, and institutional financial allocations. A structured financial planning process clearly defines resource allocation for faculty salaries, research projects, and laboratory maintenance. Annual financial audits and regular budget evaluations are conducted to confirm efficient resource management aligned with strategic objectives, ensuring the program's long-term sustainability and continuous improvement.

UBT allocates significant financial resources to facilitate faculty and student research, fostering advancements in mechatronics technology. The institution provides internal research grants and seed funding, enabling faculty to pursue innovative projects in automation, artificial intelligence, and robotics. MSc students receive financial support for research materials, thesis development, and conference participation, promoting adherence to international research

standards. Additionally, the institution actively seeks external funding through programs such as Horizon Europe, Erasmus+, and industry partnerships, ensuring sustained financial backing for research activities and enhancing the program's global competitiveness.

UBT prioritizes investment in modern laboratories and cutting-edge research infrastructure, offering MSc students access to contemporary tools and industry-standard equipment. Regular funding allocations support the maintenance and continuous upgrading of laboratory equipment, ensuring students utilize the latest technologies in mechatronics and automation. Investments include advanced simulation software, robotic systems, and embedded computing platforms. Additionally, strategic industry partnerships contribute to co-funded expansions of laboratories and research centers, ensuring alignment with industry developments and enhancing hands-on learning experiences.

UBT provides financial resources to support faculty professional development, international collaboration, and research initiatives. Funding enables faculty participation in international conferences, research exchanges, and academic mobility programs, maintaining faculty engagement in global research dialogues. The institution rewards publications in high-impact journals with financial incentives, reinforcing commitment to research excellence and knowledge dissemination. Additionally, UBT supports collaborative international research projects, promoting meaningful global partnerships and reinforcing the program's international academic reputation.

UBT offers extensive financial assistance to MSc students, ensuring equitable access to quality education regardless of economic circumstances. Scholarships and tuition waivers are awarded to academically outstanding students and those facing financial hardships, facilitating the pursuit of advanced studies. The institution provides assistantship opportunities, enabling students to gain valuable research and teaching experience alongside financial support. Industry-sponsored scholarships specifically targeting students specializing in automation, artificial intelligence, and smart manufacturing align graduates' skills with workforce requirements, fostering industry readiness.

UBT maintains a transparent, well-documented budgeting process aligned with institutional strategic goals. The allocation of resources for teaching, research, student services, and infrastructure maintenance is openly communicated, ensuring accountability and clarity. Financial plans are regularly reviewed, publicly accessible, and demonstrate clear resource prioritization. Faculty-led advisory committees oversee budget evaluations, and feedback from students and staff informs budgetary decisions. By prioritizing transparency and accountability, UBT ensures responsible financial management and continuous alignment with academic and research needs.

#### **ET recommendations:**

- 1. Expand modern and specialized laboratory facilities as UBT should enhance its mechatronics laboratories by regularly updating equipment and introducing new resources such as advanced robotics systems, simulation software, and embedded computing platforms. Establishing specialized labs dedicated to automation, AI, and industrial robotics would significantly improve the students' ability to engage with cutting-edge technology. Timeline: June 2026.
- 2. Improve digital learning and remote access capabilities as UBT is encouraged to further develop its digital learning infrastructure by expanding cloud-based simulation platforms. This enhancement will allow students remote access to virtual laboratories, enabling them to perform complex simulations and experiments from anywhere. Timeline: March 2026.
- 3. Establish industry collaboration and innovation hubs to enhance practical skills and industry readiness, as UBT should create industry-funded innovation hubs. These centers would enable students to tackle real-world engineering problems, develop solutions collaboratively, and engage directly with industry professionals. Timeline: June 2026.
- 4. Increase student access to prototyping and research tools as UBT should expand student access to prototyping and research facilities, ensuring availability of tools for 3D printing, embedded computing platforms, and other prototyping technologies. Increased accessibility will empower students to develop innovative engineering projects effectively. Timeline: December 2025.

5.

#### **3. FINAL RECOMMENDATION OF THE ET**

The ET appreciates the efforts of the management and of all the participants involved in the process of organization the site visit contributing to providing answers and offering insights to all the issues that were raised. The academic staff is targeted to applied research in cooperation with industry and has a lot of potential to contribute to the establishment of a quality culture at the department level according to formal decisions.

In conclusion, the Expert Team considers that the study program Mechatronics Engineering (MSc) offered by UBT is Fully Compliant with the standards included in the KAA Accreditation manual and, therefore, recommends accrediting the study program for a duration of 5 years with a number of 50 students to be enrolled in the program.

Standard	Compliance Level	
Mission, objectives and administration	Partially Compliant	
Quality management	Fully Compliant	
Academic Staff	Substantially Compliant	
Educational Process Content	Fully Compliant	
Students	Fully Compliant	
Research	Substantially Compliant	
Infrastructure and resources	Fully Compliant	
Overall Compliance	Fully Compliant	

#### Compliance level: Fully compliant.

Student quota recommended: 50 students / 5 Years

#### **Expert Team**

Chair		
Valla	Prof. Dr. Tauno Otto	21/03/25
(Signature)	(Print Name)	(Date)
Member J. Saypin	Prof. Dr. Ioannis Sarris	21/03/25
(Signature)	(Print Name)	(Date)
Member Jolog	Arnoldas Solovjovas	21/03/25
(Signature)	(Print Name)	(Date)
		38

AKA | Qendra e Studentëve, kati 2-të, 10000 Prishtinë, Kosovë Tel. +381 38 213722 | Fax +381 38 213087 | www.akreditimi-ks.org