

Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



UNIVERSITY "UKSHIN HOTI" PRIZREN

Master Program

COMPUTER SCIENCE AND COMMUNICATION TECHNOLOGY

ACCREDITATION

REPORT OF THE EXPERT TEAM

5 June 2021, Prizren

AKA | Qendra e Studentëve, kati 2-të, 10000 Prishtinë, Kosovë Tel. +381 38 213722 | Fax +381 38 213087 | www.akreditimi-ks.org 1



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



TABLE OF CONTENTS

Contents

TABLE	OF CONTENTS2
1. INT	RODUCTION
1.1.	Context
1.2.	Site visit schedule
1.3.	A brief overview of the institution and program under evaluation
2. PRO	OGRAM EVALUATION9
2.1.	Mission, objectives and administration9
2.2.	Quality management
2.3.	Academic staff15
2.4.	Educational process content19
2.5.	Students
2.6.	Research
2.7.	Infrastructure and resources
3. OV	ERALL EVALUATION AND RECOMMENDATION OF THE ET
4. API	PENDICES (<i>if available</i>)



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



1. INTRODUCTION

1.1. Context

Date of site visit: 25 March 2021

Expert Team (ET) members:

• Dr. Nana Dikhaminija

Coordinators from Kosovo Accreditation Agency (KAA):

- Naim Gashi, Executive Director of KAA
- Shkelzen Gerxhaliu, Senior Officer for Monitoring and Evaluation
- Arianit Krasniqi, Senior Officer for Evaluation and Accreditation
- Leona Kovaçi, Senior Officer for Monitoring and Evaluation
- Ilirjane Ademaj, Senior Officer for Monitoring and Evaluation

Sources of information for the Report:

- Self-evaluation report on Master program "Computer Science and Communication Technology", 2021
- KAA Accreditation Manual 11.07.2018
- Syllabi
- Staff CVs (Full time, part time)
- Annexes:
 - Regulation on determining the criteria for master studies
 - Regulation on personal income of academic staff, allowances for functions, fees and permanent commissions at the University "Ukshin Hoti" Prizren
 - Statute of the University "Ukshin Hoti" Prizren
 - Student handbook
 - CSF strategic plan
 - Regulation on scientific research
 - Regulation on quality assurance
 - Course syllabi
 - Evaluation Questionnaire Student Teacher





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

Criteria used for program evaluation:

• Standards & performance indicators for external evaluation according to the Accreditation Manual of KAA, July 2018.

1.2. Site visit schedule

Expert Team

• Dr. Nana Dikhaminija

Coordinators of KAA

- Naim Gashi, Executive Director of KAA
- Shkelzen Gerxhaliu, Senior Officer for Monitoring and Evaluation
- Arianit Krasniqi, Senior Officer for Evaluation and Accreditation
- Leona Kovaçi, Senior Officer for Monitoring and Evaluation
- Ilirjane Ademaj, Senior Officer for Monitoring and Evaluation

Site Visit Program

25th of March

09.00 – 09.40 Meeting with the management of the institution (*no slide presentation is allowed, the meeting is intended as a free discussion, meeting with Dean, Vice dean*)

- 09.45 10:50 Meeting with the heads of the study programme
- **10:55 11:35** Meeting with quality assurance representatives and administrative staff
- 11:35 12:30 Lunch break
- 12:30 13:20 Meeting with the teaching staff
- 13:25 13.55 Meeting with students
- 14:00 14:40 Meeting with graduates
- 14:45-15:25 Meeting with employers of graduates and external stakeholders
- 15:25 15.35 Internal meeting Expert Team and KAA
- **15:35 15:45** Closing meeting with the management of the institution



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



1.3. A brief overview of the institution and program under evaluation

University "Ukshin Hoti" of Prizren was founded in 2009. It has six academic units and offers Bachelor and Master programs mainly in Albanian language, with some courses in Turkish and Bosnian languages. The university was established on the basis of the former Pedagogical Higher School that was a branch of Pristina and operated since 1961, and later transformed into a Prizren Branch of the Faculty of Education.

The mission of the University "Ukshin Hoti" is "to provide quality education by conducting scientific research and contribute to innovation, in line with the demands of the labor market and the community locally, nationally and beyond".

The vision of the university is "building on the synergy of educational-research values and the comparative advantages of ethnic, linguistic and cultural diversity, with the aim of creating a center of academic excellence that will serve students, researchers and society in the fields of IT, agribusiness and environment, business management and administration, justice, linguistics and education."

Currently the university has around 4050 students. The program "Computer Science and Communication Technology" is implemented on the Faculty of Computer Science. The mission of the Faculty of Computer Science is "to provide quality education and to enable scientific research of the highest international level for the purpose of social and industrial development, as well as to educate distinguished students who will be leaders of future generations."

The master program under evaluation "Computer Science and Communication Technology" is applied for reaccreditation. The previous accredition dates were: 01.10.2014-30.09.2017, 01.10.2017-30.09.2020, 01.10.2020-30.09.2021. SER states that the recommendations from the previous evaluation were taken into account in preparing the current program. Mainly, the courses



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



were added or replaced, computer labs were updated, one high-quality computer lab was added with the additional equipment for robotics and IOT, research strategy was developed.

Currently, 551 students study at Faculty of Computer Science CS, 376 male and 175 female students. Students mainly come from the Prizren region (Prizren, Suhareka, Rahovec, Malisheva and Dragash), from the city of Gjakova and a number of students are from the northern part of Albania. The socio-economic background of the FCS students is of average level, as is the socio-economic status of the population of the Prizren region. Faculty of Computer Science offers two study levels – bachelor and master. In addition, the faculty plans to implement PhD Program.

The master program "Computer Science and Technology" aims to accept 45 students. As interviews with the employers confirmed, the program is based on the job market and the graduates of the program have the opportunity to find highly paid and competitive jobs.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



2. PROGRAM EVALUATION

2.1. Mission, objectives and administration

The program "Computer Science and Communication Technologies" is implemented on the Faculty of Computer Science. The mission of the Faculty of Computer Science is "to provide quality education and to enable scientific research of the highest international level for the purpose of social and industrial development, as well as to educate distinguished students who will be leaders of future generations."

The mission of the program is "to promote the study of Computer Science based on European (Bologna process) programs and experience." The SER states that these programs guarantee that the graduates will be specialists in the area of computer science. This mission is very general, is not specifically related to the program and can be used for any study levels, for example, bachelor level. The following justification also cannot be used as an argument proving the quality of the program graduates. It is necessary to develop specific mission of the program that will be in compliance with the mission of the faculty and the university.

SER states that the program "is especially designed for students who have completed basic Computer Science and who want to programing and software development and telecommunication to implement in their working place not only locally but also in international markets." It is very vague why computer science bachelor level graduates cannot use software development and telecommunication in the workplace without finishing the master program. SER should emphasize the skills and benefits that the graduates will gain after finishing the current master program.

In the same time, objectives of the program are clearly defined and cover most of the aspects of "Computer Science and Telecommunication Technologies", however, most of the objectives can be applied to the bachelor level and there is no mention of the research that is main aspect of master level studies. Also, some of the objectives are more appropriate to program learning outcomes. It is necessary to define objectives in the way appropriate to the master level.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



The objectives of the program are:

- to enable students to acquire consistent theoretical and practical knowledge for computer science field;
- students to be able and capable to manage and create software projects,
- students be able to develop adaptability and flexibility of approach and the ability to initiate and respond positively and appropriately to change,
- prepare students for a career in computer science or computer science-related fields and develop their abilities to contribute to society,
- enhance lifelong student learning skills, communication skills and personal development,
- students to be able to approach the problems that they may face in the field of computer science and telecommunication,
- in the field of this program, students will gain social and intercultural competences,

The program has 12 learning outcomes, they are clearly defined and correspond to the master level. The program consists of 120 ECTS that is comprised by 12 mandatory course, master thesis and 9 electives. The program was improved with involvement of all stakeholders, such as academic staff, quality assurance office, students, graduates and employers via the Industrial Advisory Board that was confirmed by interviews. Recommendations of the previous evaluation are mostly taken into account.

The Faculty of Computer Science has research strategy and the academic staff involved in the program have good research experience, however the program does not define research objectives clearly.





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

Standard		Compliance	
	Yes	No	
Standard 1.1. The study program mission is in compliance with the overall mission statement of the institution.		х	
Standard 1.2. Relevant academic and professional advice is considered when defining the intended learning outcomes which are consistent with the National Qualifications Framework and the Framework for Qualifications of the European Higher Education Area.	X		
Standard 1.3. The study program has a well-defined overarching didactic and research concept.		х	
Standard 1.4. There are formal policies, guidelines and regulations dealing with recurring procedural or academic issues. These are made publicly available to all staff and students.	х		
Standard 1.5. All staff and students comply with the internal regulations relating to ethical conduct in research, teaching, assessment in all academic and administrative activities.	x		
Standard 1.6. All policies, regulations, terms of reference and statements of responsibility relating to the management and delivery of the program are reviewed at least once every two years and amended as required in the light of changing circumstances.	x		

Compliance level: Substantially Compliant

ET recommendations:

- 1. Clearly define mission and objectives of the program;
- 2. Clearly define research objectives of the program.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



2.2. Quality management

The university has the Quality Assurance Office that manages quality assurance at the institutional level, develops quality assurance strategy and implementation guidelines. Each faculty has the quality assurance coordinators which are responsible for monitoring the regulations approved by the University Senate. The quality of the current program is also monitored by the Commission of Studies at the Faculty of Computer Science, especially related to the curriculum design and program implementation.

Quality assurance regulations cover the procedures and mechanisms to support the quality of teaching and research. Evaluation committees that involve academic and administrative staff, as well as students, use quantitative and qualitative approach, such as: questionnaires, interviews, monitoring, evaluation scheme, self-evaluation reports, double assessment and external consultation. All the regulations are published openly on the university website.

The evaluation of the academic and administrative staff is carried out twice a year by the Commission for Quality Assurance at the faculty level through various questionnaires and the collected data are used to come to conclusions and recommendations regarding the improvement of the quality of both categories, namely the academic staff and administrative staff.

The interviews with the professors, students and quality assurance personnel confirm that they participated in the evaluation of the current program. The issue is that the quality assurance standard of SER does not reflect this process. SER of the active program should contain all the details of what problems were revealed during the developing SER and how they were solved. In this case SER describes this process in very general way that can be used for any program at the university. SWAT analysis given in SER shows only one weakness: lack of a developed labor market, that is not related to the quality assurance at all.

SER of the program does not have benchmarks that is important for quality assurance of the program.





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

tandard		Compliance	
	Yes	No	
Standard 2.1. All staff participate in self-evaluations and cooperate with reporting and improvement processes in their sphere of activity.	х		
Standard 2.2. Evaluation processes and planning for improvement are integrated into normal planning processes.	х		
Standard 2.3. Quality assurance processes deal with all aspects of program planning and delivery, including services and resources provided by other parts of the institution.		X	
Standard 2.4. Quality evaluations provide an overview of quality issues for the overall program as well as of different components within it; the evaluations consider inputs, processes and outputs, with particular attention given to learning outcomes for students.		x	
Standard 2.5. Quality assurance processes ensure both that required standards are met and that there is continuing improvement in performance.	х		
Standard 2.6. Survey data is being collected from students, graduates and employers; the results of these evaluations are made publicly available.	x		
Standard 2.7. Results of the internal quality assurance system are taken into account for further development of the study program. This includes evaluation results, investigation of the student workload, academic success and employment of graduates.	X		
Standard 2.8. The institution ensures that reports on the overall quality of the program are prepared periodically (eg. every three years) for consideration within the institution indicating its strengths and weaknesses.	Х		
Standard 2.9. The quality assurance arrangements for the program are themselves regularly evaluated and improved.		х	

Compliance level: Substantially Compliant

ET recommendations:

- 1. The University should keep a track of all suggestions by the stakelholders, especially by the employers and students, and corresponding changes in the program. Minutes of the meetings related to the program should show the discussion related to the program.
- 2. SER should show all the qualitative and quantitative evaluation of the program, such as student survey analysis, achievement of benchmarks every year and improvement of quality assurance approaches through years.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



2.3. Academic staff

The program is mostly taught by full-time staff: 9 full-time teachers (6 professors and 3 assistants) and 6 part-time teachers (5 professors and 1 assistant). There are 3 program administrators. SER contains the list of the academic staff involved in the program showing their position, degree, contract dates and teaching load. The number of academic staff, as well as their qualification is sufficient for successful implementation of the given educational program.

The SER states and it was confirmed by the interviews with the academic staff that the professors are selected on the basis of open and transparent announcement describing job positions, conditions, criteria and employment procedures. The Faculty of Computer Science proposes the open position to the Faculty Council and is approved by the University Senate. The positon is published at the university website and in daily newspapers. As administrative staff mentioned, there are usually high number of candidates for each position.

For each position, the faculty assigns the review committee. The commitee prepares the review report on the candidates that is openly published on the university website. This report is based on the review of the documentation of each candidate and contains recommendation for the candidate. After publishing the review report, the candidate who do not agree with the decision, can file a complaint. The complain is reviewed by the Appeals Committee and processed by the University Senate. After the Senate decision the staff signs an employment contract. There are procedures to integrate new staff in the Faculty Environment. The similar procedure is used to hire non-affiliated academic staff, that is regulated by *Regulation on Evaluation Procedures for the Engagement of External Affiliates at University "Ukshin Hoti" Prizren.*

The academic staff is evaluated twice a year according to University Quality Assurance Regulations. The evaluation consists of four components: teaching quality according to student surveys, evaluation of research work according to self-evaluation report, evaluation for contribution to the institution and community, evaluation by peers and evaluation by the faculty



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



dean. Each evaluation inputs 20% into the final evaluation. These reports are used for the promotion and career development of the academic staff. The academic staff has to offer consultation hours to students, as well as is encouraged to participate in the development of university and local community. In case the evaluation shows problems, the Dean advises the staff how to overcome challenges. If the second evaluation shows the same issues, the contract might be ceased. Some staff gets financial award at the end of the year for exceptional work.

The academic staff can work only full-time at one university and part-time at another university. The staff signs a declaration confirming that and this is checked by administrative staff.

The Faculty of Computer Science offers some professional trainings to the academic staff, related to teaching methods and using online teaching system. The university partipates in several international projects, such as Erasmus+ trainings for PhD mentoring and staff exchange programs. It is also beneficial that the staff fills in questionnairs regarding what trainings they need. However, number of offered trainings are very low. The university needs to offer more opportunities for professional development of the academic staff.





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

		Compliance	
Standard	YES	NO	
Standard 3.1 . Candidates for employment are provided with full position descriptions and conditions of employment. To be presented in tabular form data about full time (FT) and part time (PT) academic/ artistic staff, such as: name, qualification, academic title, duration of official (valid) contract, workload for teaching, exams, consulting, administrative activities, research, etc. for the study program under evaluation.	X		
Standard 3.2 . The teaching staff must comply with the legal requirements concerning the occupation of teaching positions included in the Administrative instruction on Accreditation.	х		
Standard 3.3. Academic staff do not cover, within an academic year, more than two teaching positions (one full-time, one part-time), regardless of the educational institution where they carry out their activity	X		
Standard 3.4. At least 50% of the academic staff in the study program are full time employees, and account for at least 50% of the classes of the study program.	Х		
Standard 3.5. For each student group (defined by the statute of the institution) and for every 60 ECTS credits in the study program, the institution has employed at least one full time staff with PhD title or equivalent title in the case of artistic/applied science institutions.	х		
Standard 3.6 . Opportunities are provided for additional professional development of teaching staff, with special assistance given to any who are facing difficulties.		x	
Standard 3.7. The responsibilities of all teaching staff, especially full-time, include the engagement in the academic community, availability for consultations with students and community service.	Х		
Standard 3.8. Academic staff evaluation is conducted regularly at least through self-evaluation, students, peer and superiors' evaluations, and occur on a formal basis at least once each year. The results of the evaluation are made publicly available.	X		
Standard 3.9 . Strategies for quality enhancement include improving the teaching strategies and quality of learning materials.		X	
Standard 3.10 . Teachers retired at age limit or for other reasons lose the status of full-time teachers and are considered part-time teachers.	x		



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



Compliance level: Substantially Compliant

ET recommendations:

- 1. University should have regular trainings for professional development of academic staff, especially in teaching methodologies to improve teaching quality;
- 2. University should help the academic staff to participate in more international projects.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



2.4. Educational process content

The master program "Computer Science and Communication Technology" was first accredited in 2014 and re-accredited 2 times, last time – in September 2020. There are substantial changes in the program curriculum after the last accreditation, mainly related to replacing the courses with the more modern courses, adding practical work and improving master thesis requirements. These changes were discussed with the professors, students, graduates and industrial board members. In addition, some of these changes are conditioned by the recommendations that the program got during the previous accreditation process. In total 6 courses were replaced, 3 elective courses were added, ratio of practical work increased and become 43% vs 57% of theoretical work. The program consists of 120 ECTS, having 12 mandatory courses, thesis and 9 elective courses.

During the improvement process the program was compared to a few international programs, such as Master's degree program at the Faculty of Computer Science of the University of Tirana (Albania), University of Hertfordshire (England) and University of Amsterdam (Netherlands). As this field is internationally recognized, it would be beneficial to take into account also international standards of ACM (Associate of Computing Machinery) or ABET (Accreditation Board for Engineering and Technology).

The program has 10 learning outcomes that comply with the National Qualifications framework. SER gives detailed syllabi for each course describing course outcomes, main topics, literature and teaching methods. It would be beneficial to have curriculum map that shows how each course outcome maps to the learning outcomes of the program. In addition, there are no benchmarks in the program to evaluate its proper development. Assessment methods are clearly defined in the syllabus for all the courses and weight of each assessment method is distributed in the way to ensure the fair assessment of the student. The courses use variety of teaching methods corresponding to the course specifics. As the interviews with the students and academic staff confirm, the professor explains the syllabus at the beginning of the course, so the student understands how the course will be planned and what assessment methods will be used.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



The curriculum is mostly organized in the way that ensures obtaining the listed outcomes, however, there are some improvements needed:

- The course "Unconventional Computation" is a mandatory course, though these topics rarely are necessary for graduates of the Computer Science. In the same time, the course "Signals and Systems" that are core for Communication Technologies, is an elective course. It will be more useful to move "Unconventional Computation" to electives and make "Signals and Systems" mandatory.
- 2. The course "Unconventional Computation" has 2 literature from 2007 and 2008. This field developed fast during the last years, so it is advised to add also modern papers on quantum computing.
- 3. The literature of the course "Web Information Extraction and Retrieval" is from years 2010 and 2013. This direction has developed some new approaches after 2013. It is advised to add more modern literature.
- 4. The course "Advanced Artificial Intelligence" has literature from 2008 and 2010. Some topics require more modern literature.
- 5. The course "Empirical Research Methods" needs more modern literature for topics related to software engineering;
- 6. The outcomes of the course "Mechatronics" do not fully correspond to the topics described in the syllabus. The outcomes need to be corrected and adjusted more to the specifics of the mechatronics. Also, the literature of the course is outdated for some topics, for example, modern microcontrolers.
- 7. There is no specific syllabus for master thesis that would describe what kind research is covered in the thesis and how it is assessed, specifically related to this program, not on the general level of the Faculty of Computer Science.





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

Standard		Compliance	
	Yes	No	
Standard 4.1. The study program is modelled on qualification objectives. These include subject-related and interdisciplinary aspects as well as the acquisition of disciplinary, methodological and generic skills and competencies. The aspects refer especially to academic or artistic competencies, to the capability of taking up adequate employment, contributing to the civil society and of developing the students' personality.	x		
Standard 4.2. The study program complies with the National Qualifications Framework and the Framework for Qualifications of the European Higher Education Area. The individual components of the program are combined in a way to best achieve the specified qualification objectives and provide for adequate forms of teaching and learning.	Х		
Standard 4.3. The disciplines within the curriculum are provided in a logical flow and meet the definition and precise determination of the general and specific competencies, as well as the compatibility with the study programs and curricula delivered in the EHEA. To be listed at least 7 learning outcomes for the study program under evaluation.		x	
Standard 4.4. The disciplines within the curriculum have analytical syllabuses which comprise at least the following: the discipline's objectives, the basic thematic content, learning outcomes, the distribution of classes, seminars and applicative activities, students' assessment system, the minimal bibliography, etc. The full course description/ syllabuses of each subject/ module should be attached only in electronic form to the self-assessment report for the study program under evaluation.	х		
Standard 4.5. If the language of instruction is other than Albanian, actions are taken to ensure that language skills of both students and academic staff are adequate for instruction in that language when students begin their studies. This may be done through language training prior to the commencement of the program.	n.a.		
Standard 4.6. The student-teacher relationship is a partnership in which each assumes the responsibility of reaching the learning outcomes. Learning outcomes are explained and discussed with students from the perspective of their relevance to the students' development.	Х		
Standard 4.7. Teaching strategies are fit for the different types of learning outcomes programs are intended to develop. Strategies of teaching and assessment set out in program and course specifications are followed with flexibility to meet the needs of different groups of students.	X		
Standard 4.8. Student assessment mechanisms are conducted fairly and objectively, are appropriate for the different forms of learning sought and are clearly communicated to students at the beginning of courses.	Х		





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

Standard 4.9. Appropriate, valid and reliable mechanisms are used for verifying standards of student achievement. The standard of work required for different grades is consistent over time, comparable in courses offered within a program, and in comparison with other study programs at highly regarded institutions.		х
Standard 4.10. Policies and procedures include actions to be taken in to dealing with situations where standards of student achievement are inadequate or inconsistently assessed.		
Standard 4.11. If the study program includes practice stages, the intended student learning outcomes are clearly specified and effective processes are followed to ensure that those learning outcomes and the strategies to develop that learning are understood by students. The practice stages are allocated ETCS credits and the work of the students at the practical training organisations is monitored through activity reports; students during practice stages have assigned tutors among the academic staff in the study program.	n.a.	
Standard 4.12. In order to facilitate the practice stages, the higher education institution signs cooperation agreements, contracts or other documents with institutions/organisations/practical training units.		

Compliance level: Substantially Compliant

ET recommendations:

- 1. Update the literature in the courses: Unconventional Computation, Web Information Extraction and Retrieval, Advanced Artificial Intelligence, Empirical Research Methods, Mechatronics;
- 2. Prerequisites for each course should be defined either in the program structure or in each syllabus.
- 3. Create the syllabus for master thesis showing the specifics of research related to the program, development process and assessment methods.
- **4.** Make the course "Signals and systems" mandatory, and the course "Unconventional Computation" elective.
- 5. Develop benchmarks for evaluation of the program and performance indicators based on student achievements in each course.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



2.5. Students

The student admission process is managed at the institutional level. The announcement for the program is published openly on the university website. SER shows that during the last 4 years 60-80 students are active in the program and their 30%-40% are women that is a good achievement for the computer science program. The program is open to all students regardless of age, gender, ethnicity, place of residence, religious belief, etc.

SER states that applicants to the program should have bachelor degree in economics, law, political science and agribusiness. If they got BA grades 8 or higher, they can directly enroll to the program. If they have BA grade less than 8, they need to take an entrance exam. As the faculty administration explained, there is entrance exam for everyone that checks the prior knowledge in topics of Databases, Programming and Networks, however this is not specified in the program description or SER. In addition, students who have completed basic studies abroad are also eligible to enroll in master studies, provided these studies are recognized by the European University Association or institutions recognized by the International Accreditation Agency. It is not clear what bachelor degree are required from them or if they take any entrance exams. These details should be clearly given in program description and SER.

In general, criteria for student admission is defined by University Regulations. The admission places, all the requirements and appeal procedures are published on the University website in Albanian and Bosnian languages. The program has 45 open places and the university has allocated sufficient material and human resources to ensure good quality teaching process to this number of students. Theoretical parts of the lecture is attended by the whole group, and for practical part there are split into two groups.

The university gives preference to its own graduates in application process. If the bachelor graduates of the university have 8.0 GPA they can directly apply to the program. Applicants from other universities are admitted only if there are places left.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



Master studies are regulated by the *Regulation on master degree criteria* that informs students of their rights, obligations and other information related to the master program. Students are informed of their rights and responsibilities through the *Student Manual* (annex 2.1.5.a). The study regulations and the manual are public and available on the University website. In addition, after the admission, the students have a meeting with Dean, academic and administrative staff where they are given instructions on administrative and technical matters. Students are also provided with a student ID card that enables them to log on to the University Management System (SMU).

Each academic staff is required to allocate consultation hours to the students. The final results of the assessments are published within a short period of time. Professors offer consultations to the students before and after exams. The assessment results are directly shown in the grade transcript.

The student complete the master studies after defending the maser thesis. General design of the thesis, assessment and procedures by the *Regulation on master's degree studies*. However, it would be beneficial to have the specifics of the program thesis separately, as already mentioned in the recommendations to the standard 2.4. The transfer to and from other universities is also regulated by the Regulation on master degree studies at the faculty level.

Each faculty has a student council and student parliament that represent the student issues to the university. It is useful that the students are part of governing bodies of the university, such as the Senate and the Faculty Council and any committee created at the faculty level.

SER states that the average graduation rate in this program is 70%.

The university has a special module to check plagiarism that is a part of the university electronic management system, where students have access the their whole portfolio. The students are aware of the plagiarism rules. There are not many opportunities for the students to participate in international projects and even Erasmus+ exchange projects are not very popular among the students of the current program, as revealed during the interviews. Students are offered some trainings related to writing the scientific papers, doing research or developing career skills. They are also offered internships and career developing opportunities through the partner companies.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



There are very low participation of students in research. The university does not offer any entrepreneurship assistance such as startup preaccelerators or entrepreneurship centers to the students that would be very beneficial to the computer science students.

Standard		Compliance	
	Yes	No	
Standard 5.1. There is a clear and formally adopted admission procedure at institutional level that the study program respects when organising students' recruitment. Admission requirements are consistently and fairly applied for all students.		x	
Standard 5.2. All students enrolled in the study program posses a high school graduation diploma or other equivalent document of study, according to MEST requirements.	х		
Standard 5.3. The study groups are dimensioned so as to ensure an effective and interactive teaching and learning process.	Х		
Standard 5.4. Feedback to students on their performance and results of assessments is given promptly and accompanied by mechanisms for assistance if needed.	Х		
Standard 5.5. The results obtained by the students throughout the study cycles are certified by the academic record.	Х		
Standard 5.6. Flexible treatment of students in special situations is ensured with respect to deadlines and formal requirements in the program and to all examinations.	х		
Standard 5.7. Records of student completion rates are kept for all courses and for the program as a whole and included among quality indicators.	Х		
Standard 5.8. Effective procedures are being used to ensure that work submitted by students is original.	х		
Standard 5.9. Students' rights and obligations are made publicly available, promoted to all those concerned and enforced equitably; these will include the right to academic appeals.	х		
Standard 5.10. The students' transfer between higher education institutions, faculties and study programs is clearly regulated in formal internal documents.		х	
Standard 5.11. Academic staff is available at sufficient scheduled times for consultation and advice to students. Adequate tutorial assistance is provided to ensure understanding and ability to apply learning.	х		



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

Compliance level: Substantially Compliant

ET recommendations:

- 1. Clearly specify the details on entrance exam in the program description and SER.
- 2. Develop some entrepreneurship center or startup accelerator for the students;
- 3. Offer more exchange programs to the students;
- 4. Involve more students in research activities;

2.6. Research

The program does not directly specify research objectives in its mission or objectives, however one learning outcome is that graduate will be able to organise and implement research projects. The SER states that each course contains integrated research part, though this cannot be confirmed from the syllabi. The student will develop research skills through writing the master



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



thesis. The master thesis regulations and requirements are given in the Regulation for master studies. It would be beneficial for the program to have separate syllabus for the master thesis that would define the scope of research, assessment steps, types of research, etc.

The university has Regulation for Scientific Research that manages the research activities of academic staff, defines which journals are recognized for publishing. In addition, the university conducts the staff evaluation that includes the assessment of research activities, that is presented by academic staff in self-evaluation report. The academic staff is required to publish at least one scientific paper a year in the high-level journals. In addition, there is monetary prize for publishing. The Faculty of Computer Science strategy has clear plan for improvement research aspect at the faculty. The university has a several agreements with international universities related to staff exchange and research collaborations. The university participates in several international projects, some of them directly related to research or aiming for capacity building in research direction. SER lists a few opportunities for staff exchange with international universities. In addition, SER gives the projects for the last five years:

- 1. The development and implementation of a PhD Program in ICT for the Kosovo Education System;
- 2. Horizon 2020 SMART4ALL;
- 3. Western Balkans Academic Education Evolution and Professional's Sustainable Training for Spatial Data Infrastructures ;
- 4. Open ICT Education for Youth Employability.

It is result of all these actions that the program academic staff has a significant number of publications during the last 5 years that is given in SER. The papers are mostly related to the program content, therefore the academic staff can easily integrate their research in the teaching process. However, not many students participate in research. During interviews it was revealed that the university has limited funds to help small research projects that would be useful for involving more students in research. It will be also useful to develop small applied research projects with the partner companies. There is also lack of activities that would help the academic



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



staff to commercialize their research. Entrepreneurship or research commercialization center would help the academic staff in this direction.





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

Standard		pliance
	Yes	No
<i>Standard 6.1.</i> The study program has defined scientific/applied research objectives (on its own or as part of a research centre or interdisciplinary program), which are also reflected in the research development plan of the institution; sufficient financial, logistic and human resources are allocated for achieving the proposed research objectives.		x
<i>Standard</i> 6.2. Expectations for teaching staff involvement in research and scholarly activities are clearly specified, and performance in relation to these expectations is considered in staff evaluation and promotion criteria.	х	
<i>Standard 6.3.</i> Clear policies are established for defining what is recognized as research, consistent with international standards and established norms in the field of study of the program.	Х	
<i>Standard 6.4.</i> The academic staff has a proven track record of research results on the same topics as their teaching activity.	х	
<i>Standard 6.5.</i> The academic and research staff publish their work in speciality magazines or publishing houses, scientific/applied/artistic products are presented at conferences, sessions, symposiums, seminars etc. and contracts, expertise, consultancy, conventions, etc. are provided to partners inside the country and/or abroad.	x	
<i>Standard 6.6.</i> Research is validated through: scientific and applied research publications, artistic products, technological transfer through consultancy centres, scientific parks and other structures for validation.	х	
<i>Standard 6.7.</i> Each academic staff member and researcher has produced at least an average of one scientific/applied research publication or artistic outcome/product per year for the past three years.	Х	
<i>Standard 6.8.</i> Academic and research staff publish under the name of the institution in Kosovo they are affiliated to as full-time staff.	х	
<i>Standard 6.8.</i> Academic staff are encouraged to include in their teaching information about their research and scholarly activities that are relevant to courses they teach, together with other significant research developments in the field.		х
<i>Standard 6.9.</i> Policies are established for ownership of intellectual property and clear procedures set out for commercialization of ideas developed by staff and students.		х
Standard 6.10. Students are engaged in research projects and other activities	х	





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

Compliance level: Substantially Compliant

ET recommendations:

- 1. Clearly define the research objectives of the program "Computer Science and Communication Technology" taking into account the program specifics;
- 2. Allocate funding for small research grants for the program;
- 3. Strenghthen the research commercialization structure of the university in collaboration with industry partners;



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



2.7. Infrastructure and resources

The SER gives the detailed information on the infrastructure and resources available for the Faculty of Computer Science where the program is implemented. The Faculty of CS has 9 study halls, 4 of them are computer labs with 25 computers each. The facility is also equipped with elevators to meet the needs of people with wheelchair. The facility also has offices for the Dean, Vice dean, Head of Teaching, Secretariat, Bachelor-level Students Officer, Master-level Students Officer, and offices for 5 full-time Professors.

After the previous evaluation, that recommended to add one computer lab and update the existing ones, the labs were upgraded and one new high-quality computer lab was established with the support of EU project PhDICTKES. The new lab includes various equipment such as high performance computing platform (multi cpu, gpu, fpga), robotics, internet of things and wireless sensors networks, robotic arms.

There is no program budget developed for the program. It is given that fee for the program is 150 Euro. There is no detailed financial expenses and plan necessary to check the financial stability of the program. However, the funding of the program is guaranteed by the University since it is a Public Institution of Higher Education. Even in this condition, it would be beneficial to have the detailed budget of the program.

The Faculty of Computer Science does not have a Data Center or subscription to Cloud services. As research in Computer Science often requires big data analytics, it would be beneficial to have some kind of Data Center or offer special subscription to Cloud Computing services to the professors and students. In addition, it will be good for the Faculty to establish entrepreneurship center and corresponding co-working space.

The Faculty of Business has sufficient infrastructural resources to implement the program for 45 students. It also has the necessary software that are used in the courses. The university has a library with 90 working places. Through the Kosovo Library Association, the university has access to many well-known scientific libraries, but it will be beneficial for the program to add access to IEEE.

The university has implemented a learning management system. This system gives the Faculty of Business the possibility to well organize and analyze all the data related to educational processes, and the students can manage their whole educational portfolio, as well as communicate with the professors through the system. The system was especially useful during the pandemic lockdown, when the university moved to online teaching.





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

Standard		Compliance	
	Yes	No	
Standard 7.1. The adequate long-term implementation of the study program is ensured in quantitative terms as regards premises, human resources and equipment. At the same time, it is guaranteed that qualitative aspects are also taken into account.	x		
Standard 7.2. There is a financial plan at the level of the study program that would demonstrate the sustainability of the study program for the next minimum three years.		х	
 Standard 7.3. The higher education institution must demonstrate with adequate documents (property deeds, lease contracts, inventories, invoices etc.) that, for the study program submitted for evaluation it possesses the following, for the next at least three years: a) owned or rented spaces adequate for the educational process; b) owned or rented laboratories, with the adequate equipment for all the compulsory disciplines within the curriculum, wherever the analytical syllabus includes such activities; c) adequate software for the disciplines of study included in the curriculum, with utilisation licence; d) library equipped with reading rooms, group work rooms and its own book stock according to the disciplines included in the curricula. 	X		
Standard 7.4. The number of seats in the lecture rooms, seminar rooms and laboratories must be related to the study groups' size (series, groups, subgroups); the applicative activities for the speciality disciplines included in the curricula are carried out in laboratories equipped with IT equipment.	x		





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

Standard 7.5. The education institution's libraries must ensure, for each of the study programs:	х	
a) a number of seats in the reading rooms corresponding to at least 10% of the total number of students in the study program;		
b) a number of seats in the group work rooms corresponding to at least 10% of the total number of students in the study program;		
c) their own book stock from Albanian and foreign speciality literature, enough to cover the disciplines within the curricula, out of which at least 50%		
should represent book titles or speciality courses of recognised publishers, from the last 10 years;		
d) a book stock within its own library with a sufficient number of books so as to cover the needs of all students in the cycle and year of study the respective discipline is provided for;		
e) a sufficient number of subscriptions to Albanian and foreign publications and periodicals, according to the stated mission.		
Standard 7.6. The infrastructure and facilities dedicated to the implementation of the program is adapted to students with special needs		

Compliance level: Substantially compliant

ET recommendations:

- 1. Add the Data-center to the Faculty of Computer Science or offer special subscriptions to Cloud Computing services for the professors and students;
- 2. Develop the Entrepreneurship center and co-working spece for students;
- 3. Develop detailed financial plan to ensure the proper development of the program.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

3. OVERALL EVALUATION AND RECOMMENDATION OF THE ET

The Panel would like to commend the programme development team for their proactive engagement with the Panel during the accreditation visit. There was a very strong sense of teamwork and ownership exhibited by the programme development team. It is evident that a good level of care and attention has been given to the improvement of the program after the previous evaluation. Having considered the documentation provided and discussed it with the programme development team, the accreditation Panel recommends the following:

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

The overall compliance is assessed by the experts at the level of **Substantially Compliant**.

However, the following recommendations need to be considered to improve the program:

- 1. Clearly define mission and objectives of the program;
- 2. The University should keep a track of all suggestions by the stakelholders, especially by the employers and students, and corresponding changes in the program. Minutes of the meetings related to the program should show the discussion related to the program.





Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency

- 3. SER should show all the qualitative and quantitative evaluation of the program, such as student survey analysis, achievement of benchmarks every year and improvement of quality assurance approaches through years.
- 4. University should have regular trainings for professional development of academic staff, especially in teaching methodologies to improve teaching quality;
- 5. University should help the academic staff to participate in more international projects.
- 6. Update the literature in the courses: Unconventional Computation, Web Information Extraction and Retrieval, Advanced Artificial Intelligence, Empirical Research Methods, Mechatronics;
- 7. Prerequisites for each course should be defined either in the program structure or in each syllabus.
- 8. Create the syllabus for master thesis showing the specifics of research related to the program, development process and assessment methods.
- 9. Make the course "Signals and systems" mandatory, and the course "Unconventional Computation" elective.
- 10. Develop benchmarks for evaluation of the program and performance indicators based on student achievements in each course.
- 11. Clearly specify details on entrance exams in the program description and SER.
- 12. Develop some entrepreneurship center or startup accelerator for the students;
- 13. Offer more exchange programs to the students;
- 14. Involve more students in research activities;
- 15. Clearly define the research objectives of the program "Computer Science and Communication Technology" taking into account the program specifics;
- 16. Allocate funding for small research grants for the program;
- 17. Strenghthen the research commercialization structure of the university in collaboration with industry partners;
- 18. Add the Data-center to the Faculty of Computer Science or offer special subscriptions to Cloud Computing services for the professors and students;
- 19. Develop the Entrepreneurship center and co-working spece for students;
- 20. Develop detailed financial plan to ensure the proper development of the program.

In conclusion, the Expert Team considers that the Master program "Computer Science and Communication Technology" offered by University of "UKSHIN HOTI" **substantially compliant** with the standards included in the KAA Accreditation Manual and, therefore, recommends to accredit the above study programme for a duration of **three** years with **45** students to be enrolled on the programme.



Agjencia e Kosovës për Akreditim Agencija Kosova za Akreditaciju Kosovo Accreditation Agency



Expert Team

Members Prof. Dr. Nana Dikhaminija

N. Dikhary

Signature

Nana Dikhaminija

5.06.2021

4. APPENDICES (*if available*)

None