

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



University of Prishtina (FSHMN) Hasan Prishtina

Faculty of Mathematics and Natural Sciences

### PROGRAMME Re Accreditaton

**Bachelor of Mathematics** 

### **REPORT OF THE EXPERT TEAM**

03.03.2025, Prishtina



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### **INTRODUCTION**

### Expert Team (ET) members:

- In-person: Professor Miklos Hoffmann
- Virtual visit: Professor Ivan Slapničar, Mr. Damian Michalik (student expert)

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

- Shpresa Shala, SO for Monitoring and Evaluation
- Milot Hasangjekaj, Head of Post Accreditation Division

### Sources of information for the Report:

- Self-evaluation Report (SER)
- Documents (Agreements, Rules, CVs, Strategies, Manuals, List of Publications, Statues, Syllabi)
- List of courses and learning outcomes
- Draft of faculty strategy
- QA questioners (for students, academic and administrative staff)
- Website of the Institution

### **Requested documents:**

- A revised table of RECENT EVOLUTION AND DEVELOPMENTS RECORDED SINCE THE PREVIOUS EVALUATION with clear and updated response to all the items (page 86 of the original self-evaluation report)
- Draft of faculty strategy
- The most recent QA report, including examples of recent surveys taken for
  - questionnaires about individual courses which students are obliged to submit
  - questionnaires on overall Bachelor program that students submit
  - questionnaires for professors
  - questionnaires for staff

### **Received documents:**

- Draft of Faculty strategy (in Albanian)
- Questionnaires:
  - Questionnaire for Academic Staff (covers information on the faculty, academic staff, teaching and learning, and research activities)

- Questionnaire for Student on Bachelor Program (covers learning and teaching, lab/practical work, and services and infrastructure)
- Questionnaire for Students on Individual Course
- Questionnaire for the Administrative and Support Staff of the University
- Results of surveys:
  - Data on completion of Survey for Academic Staff
  - Complete results of the Survey for Administrative Staff
  - Complete results of the Student Survey on Bachelor program (including students' comments).
- Updated responses to Recent Evolution and Developments Recorded Since the Previous Evaluation

### Criteria used for institutional and program evaluations

- KAA Accreditation Manual, 2024
- Criteria for Relevance, Efficiency, Effectiveness, Impact, Sustainability

### Site visit schedule

Time	Meeting	Participants
09:00 - 10:00	Meeting with the management of the faculty where the programme is integrated	Kajtaz Bllaca - Dean Arben Haziri - Vice-dean Ferim Gashi - Vice-dean Lulzim Millaku - Vice- dean Jeton Hyseni – Secretary
10.00 - 10.40	Meeting with quality assurance representatives and administrative staff	Asist. Dr. Kaltrina Jusufi Besnik Loxha Artan Alidema
11:40 - 12:40	Meeting with the head of the study programme	Kajtaz Bllaca Elver Bajrami Behar Baxhaku
12:40 - 13:40	Lunch break	
13:40 - 14:20	Meeting with teaching staff	Naim Braha Menderes Gashi Bujar Fejzullahu Armend Shabani Arbër Selimi Valona Lahu
14:20 - 14:50	Meeting with students	Lian Rashiti Fatjona Uka Rion Berisha Arbenita Sferka Orinda Turku
14:50 -15:20	Meeting with alumni	Doruntina Krasniqi

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		Defrim Brajshori
15:20 - 15:50	Meeting with employers of graduates and external stakeholders	Enis Avdimetaj, Raiffeisen Tech Kosovo, Astrit Desku KOMTEL Project Engineering
15:50 - 15:55	Internal meeting of KAA staff and experts	
15:55– 16:00	Closing meeting with the management of the faculty and program	Kajtaz Bllaca - Dean Arben Haziri - Vice-dean Ferim Gashi - Vice-dean Lulzim Millaku - Vice- dean Jeton Hyseni – Secretary

#### Abbreviations

UP - University of Prishtina "Hasan Prishtina"

FMNS - Faculty of Mathematics and Natural Sciences

BScM - Study programme "Bachelor of Mathematics"

SER - Self-evaluation Report of BScM, 2024

QA – Quality Assurance

#### A brief overview of the program under evaluation

Faculty of Mathematics and Natural Sciences in Prishtina was established in 1971, by decision of the Assembly of Kosovo (Official Paper of SAP Kosovo, no. 37/71). Studies of mathematics and natural sciences (Biology, Physics, Chemistry and Mathematics) began eleven years earlier at the Faculty of Philosophy, founded in 1960. In 1971, from those study programs, the Faculty of Mathematical and Natural Sciences was formed. FMNS organized regular studies in five departments: Biology, Physics, Geography, Chemistry and Mathematics. These departments exist today, as well.

Due to political and social circumstances in which Kosovo has passed, particularly in the last decade of the 20<sup>th</sup> century, FMNS's activity, as well as the UP, time after time has faced major challenges and obstacles. These obstacles have been successfully managed and overcome due to the work of the academic staff, who managed to successfully fulfil their mission as teachers and scientific researchers.

To advance the overall study, increasing the quality and efficiency of their academic staff's, FMNS took action to change the curriculum of studies. Given the objective of achieving European standards of research and aims for more genuine cooperation with European universities, a research model was supported by the Bologna agreement (3+2+3) proposed and approved at the University of Prishtina. In this way, from 1 October of the academic year 2001/2002 basic studies took place under

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the new curriculum. After review and evaluation of these curricula, in the academic year 2005/06 implementation of the plan approved by the Senate of the University of Pristina was started, where several departments have re-formulated the system of study in 4+1+3 years, always conforming to the Bologna Agreement.

The content and the structure of the program is in line with the mission and strategic goals of FMNS. The mission and objectives of this program is to enable students to acquire basic knowledge and understand results in the main areas of mathematics: algebra, analysis, geometry, differential equations, discrete mathematics, probability theory and statistics, numerical analysis, computer science and so on. The theoretical knowledge acquired in this program is necessary to understand mathematical methods and techniques and apply them in solving problems different from mathematics, financial mathematics, economics, etc. Students are also introduced to mathematical modeling and its various applications. Further, students will be able to understand mathematical proofs, use logical arguments in the proof of mathematical statements, and apply mathematical modeling to solve various problems using mathematical and IT techniques.

The study program is in accordance with the goals of the University of Pristina and harmonized with the National Qualifications Framework and the Qualifications Framework of the European Higher Education Area.

The intended learning outcomes of the study program are consistent with the mission and strategic goals of the Department of Mathematics

The Bachelor of Mathematics Program in the Department of Mathematics (FMNS) is the only one in Kosovo that prepares staff for the level of pre-university education at the national level, and the need for teachers in this field is very great. It is planned to enroll 60 students yearly in this study program. For this number of students, there is sufficient staff of mathematics professors and assistants, as well as sufficient spaces in terms of classrooms and computer laboratories.

#### **PROGRAMME EVALUATION**

The program evaluation consists of 7 standard areas through which the program is evaluated.

#### 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 Vision and Mission of UP is published in Albanian and English at <u>https://uni-pr.edu/page.aspx?id=2,47</u>. The mission, the objectives, and the entire composition of the BScM are in line with the Vision and Mission of the UP. They are published in the SER and teaching staff and the QA representatives are aware of it.

The study program is the only Bachelor Program in Mathematics in Kosovo that prepares graduates for the level of pre-university education. It is primarily intended to educate future high school teachers. However, recently many graduates have also found excellent jobs in industry (primarily banking, insurance and IT companies). The planned enrolment of 60 students each year is based on the analysis of the needs of the country and capacity of the institution. Due to the entrance exam, this quota is usually filled up to half.

The BScM Program also adheres to the Rules of Bachelor Study Programs of the UP, publicly available at <u>https://fshmn.uni-pr.edu/page.aspx?id=1,117</u>. Worth noting is the impression that teachers and students have excellent relationships, and teachers are willing to have consultation during and outside official working hours. Also, teachers and students have regular, albeit informal, contacts with employers' representatives.

The list of all courses and detailed syllabi of majority of courses is publicly available at <u>https://fshmn.uni-pr.edu/page.aspx?id=1,69</u> (in Albanian). The English version of the list of all courses and detailed syllabi of all courses in available in the SER. However, there is no single document which would contain all this information.

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

The FMNS and BScM rely on the UP documents regarding policies and procedures to deal with plagiarism, academic dishonesty and other types of unethical behavior. The university documents are available at <u>https://fshmn.uni-pr.edu/page.aspx?id=1,117</u>. All stakeholders are aware of those documents and have knowledge of situations where actions were taken. Students are informed through student handbooks. Such issues are handled by the Ethics Council of the UP, which is elected every four years. The bodies of the UP are informed about the decisions, and these decisions are distributed to the relevant academic unit.

There is plagiarism detection software, also at the university level. The BScM implements procedures that students, academic staff and administrative staff must follow.

In the meetings with the management, teaching staff and students, the experts gained the impression that a good level of compliance with internal regulations relating to ethical conduct in research, teaching and assessments has been achieved, although not always documented and checked through QA system.

Standard 1.3 Relevant information is collected, analyzed 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 UP Information Management System collects comprehensive, relevant, up-to-date, and reliable data on enrolment, advancement of students, and various QA surveys. The questionnaires are publicly available at <u>https://fshmn.uni-pr.edu/page.aspx?id=1,117</u>. The results of surveys are analyzed by management (with the involvement of students and staff) and used in planning follow-up activities. Due to legal restrictions, only summary results of surveys are published. Lots of analysis and planning is done informally.

## 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 curriculum and other activities are under constant review and improvement. The review process involves management, teaching staff, students, and to some extent, alumni.

The BScM program is fully supported by Faculty and University administration. Some of the central offices and centers of UP are:

- Office for Academic Affairs.
- Office for Science and Sponsored Research.
- Office for Academic Development and Quality.
- Student Services Office.
- Office for Foreign Relations.
- Center for Human Rights and Gender Equality.
- Center for Lifelong Learning.
- Center for Excellence in Teaching.
- Center for Energy and Sustainability.
- Center for Career Development.
- Central University Library.

All teaching staff are required to take courses at the Center for Excellence in Teaching, and they find very it useful.

## 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)

Constant improvement of the BScM based on previous QA procedures is evident. In particular:

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- Obligatory information on syllabus and exam, as well as learning materials are put in the Learning Management System.
- All teaching staff must hold three office hours weekly.
- The number of publications published in high-quality journals and visits to conferences has considerably increased.
- The UP subsidizes publication in high-quality journals and visits to international conferences.
- The number of permanently employed teaching assistants has increased and is now sufficient.
- All surveys are held on a regular basis.

Other means of improvement is based on informal, but constant and friendly discussions between management and other stake holders

### **ET recommendations:**

- 1. Publish (on Web) a comprehensive document which includes mission, vision, and goals of the BScM program, learning outcomes, list of courses and syllabi of individual courses.
- 2. Clearly link the intended learning outcomes with the descriptive levels of the National Qualifications Framework.
- 3. Publish the English version of the above document to increase international incoming mobility of students.
- 4. Publish summary data on surveys, in particular give information on alumni surveys.
- 5. Publish comprehensive data on publications of teaching staff. (list of papers with IF or Quartile information, list of conferences attended by the research staff, list of international collaborations, list of projects, list of organized conferences, etc.)
- 6. Increase incoming and outgoing mobility of students and incoming mobility of teaching staff (even with on-line or joint courses) in accordance with strategic Plan of UP 2023-2025.
- 7. Continue development of master's program Applied Mathematics in cooperation with industrial partners.
- 8. Establish Doctoral Studies.
- 9. Increase international scientific collaboration, including incoming and outgoing mobility of researchers.

### 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)

The formal system at the University of Prishtina encompasses a Regulation on Quality Assurance and Evaluation approved in 2016. This regulation also defines the role and responsibility of organizational and academic units at the University of Prishtina for carrying out quality assurance and evaluation activities. According to the Quality Assurance Regulation, the quality assurance processes cover a number of issues – teaching quality, services for students, scientific activity, international cooperation and resources. According to the SER, there are four types of quality evaluation instruments – academic staff questionnaires, questionnaires for course evaluation, administrative staff questionnaires and student questionnaires. There is a structure at the central level that explains the formal responsibilities of all parties. The evaluation process is administered at the central level but executed on faculties.

The faculty has designated staff responsible for managing quality assurance activities, and they have sufficient time to maintain the quality assurance system. RT has observed that the system is well-established and ensures an adequate cycle for continuous improvement.

According to the meeting with quality assurance representatives, feedback is collected, analyzed, and conclusions are formulated in the annual quality assurance report. This report is published and made available to all stakeholders. However, it would be beneficial to send a direct message to each academic group to highlight the progress resulting from the monitoring system.

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

The University of Prishtina implements Law no. 04/L-037 "On Higher Education in the Republic of Kosovo" and the University Statute as the legal basis for regulation, functioning, financing, and quality assurance in higher education, in accordance with European standards. The ongoing development of the study program is aligned with the institution's mission and strategic goals. Although these elements are broadly formulated, the faculty meets the requirements of UP. Additionally, the quality assurance system is highly centralized, ensuring adherence to strategic goals.

In coordination with the Vice-Rector for Quality Assurance and the Office for Academic Development, academic units lead the program accreditation process through the Central Quality Assurance Commission at the University level and the Senate. This process meets the requirements of KAA and consistently fosters continuous improvement.

The process for developing and approving the study program is clearly defined and incorporates input from various stakeholders, including international universities. The BScM, for instance, was originally modeled after one from the University of Zagreb and international feedback was collected.

Given that this evaluation is for re-accreditation, all important metrics are considered, including teaching quality, scientific activity, international cooperation, graduate perceptions, student services, and organizational culture, all gathered from stakeholders.

## 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)

A broad spectrum of internal and external actors is involved in monitoring and reviewing the study program. From the perspective of governing the internal system, the relevant entities include the University Senate, the Rector, the Central Commission for Quality Assurance and Evaluation at the University level, the Office for Academic Development at the University level, the Dean of the academic unit, and the Commission for Quality Assurance and Evaluation at the academic unit level. These entities are responsible for collecting feedback from all stakeholders and implementing improvements to enhance the study program.

RT noticed that the program is developed in consultation with relevant stakeholders and is regularly reviewed and updated to ensure it remains aligned with institutional priorities and the local context. This is achieved through a comprehensive needs analysis conducted by the institution and its staff, considering various factors such as employment prospects, demand from potential students, and emerging trends in the relevant field. However, in practice, feedback employers should be gathered more regularly and acted upon. RT has learned during

meetings with labor market representatives that they could play a more active role in this process.

To gather valuable insights for monitoring purposes, the institution regularly sends questionnaires to internal stakeholders. These questionnaires and forms, developed by the University of Prishtina, are tailored for academic staff, administrative staff, and students, each containing questions relevant to their respective categories. The questionnaires are completed electronically and managed by SEMS.

Questionnaire	Categories
Questionnaire for academic staff	<ul> <li>Information on faculty</li> <li>Academic staff, teaching and learning</li> <li>Research activities</li> <li>Administrative activities</li> </ul>
Questionnaire for students	<ul> <li>Learning and teaching</li> <li>Lab/Practical work</li> <li>Services and infrastructure</li> </ul>
Questionnaire for the administrative and support staff of the university	Administrative activities

The first public reports on the results of surveys have been produced only very recently. It would be very important for the summary reports on employer and graduate feedback (but not limited to) to be produced at the faculty level to allow the community to get a clear overview on the faculty performance and allow for immediate translation into improvement actions.

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

According to conducted discussions and available evidence, all policies, regulations, and guidelines pertaining to the study program are publicly available. According to the document, the study program is subject to written procedures and mechanisms to deal with issues such as plagiarism, academic dishonesty, and various forms of discrimination, as defined by the Code of Ethics of the UP. These documents are publicly available, and staff and students are informed thereof.

Important elements related to enrollment are publicly available. However, not all of them are accessible to everyone. RT has not found syllabuses, learning outcomes, credits, and assessment methods. Although these documents can be accessed via SEMS, it is crucial to publish all of them for external stakeholders. Besides documents, it should be presented more information upon. pass rate, dropout rate, and graduate employment.

Based on the review, all information is up-to-date and reliable. However, it should be expanded, and all gaps, as mentioned, should be addressed.

### **ET recommendations:**

- 1. Enhance the role of employers in the process of study program monitoring.
- 2. More directed dissemination of feedback to all stakeholder groups showing that the process is effective and outcome oriented.
- 3. Expanding more information about QA culture to all stakeholders (even external) to make the process more transparent for everyone involved, including publishing of more information.

### **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 recruitment of teaching staff is regulated by the *Regulation on Selection Procedures Regarding Appointment, Reappointment and Advancement of the Academic Staff at the University of Prishtina "Hasan Prishtina"*, which is publicly available at <u>https://fshmn.uni-pr.edu/page.aspx?id=1,117</u> (English version). The regulations give minimal conditions that candidates need to fulfill at all levels (Teaching Assistant, Lecturer, Assistant Professor, Associate Professor, and Full Professor) and are in line with national legislation. The evaluation procedures for the academic degree appointments are based on educational activity, research, scientific and professional activity, and service activity.

Each vacancy for appointment, reappointment, and advancement is announced by the UP Senate following the proposal made by the faculty. The vacancies are publicly announced, and the selection procedures are all made in a transparent manner.

Future employees are informed with full description of the conditions of employment.

During meetings with management and teaching staff, it was confirmed that all procedures are precisely followed.

### 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)

Permanent teaching staff of BScM is comprised of four Full Professors, seven Associate Professors, six Assistant Professors, one Lecturer and five Teaching Assistants. Permanent staff is supported by adjunct teaching staff comprised of one Full professor, one Lecturer and seven Teaching Assistants.

The teaching staff covers well all diverse obligatory and elective courses with respect to teaching and corresponding research.

The student-teacher ratio is favorable and for each 60 ECTS of the study program, the FMNS has more than one full-time professor employed. The teaching and research load follows the guidelines prescribed by law and is commensurate with that of other similar European HEIs.

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 procedures for advancement and reappointment are stated in the *Regulation on Selection Procedures* ... mentioned in Standard 3.1. The listed criteria that candidates must satisfy for advancement lead to scientific and educational excellence. The criteria are in line with national legislation, and the process is transparent and includes public competition.

### 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)

In the SER and during meetings with management and teaching staff we were informed about the institutional support that the teaching staff receives. UP supports the author of each high-quality scientific paper (cited in Web of Science or SCOPUS). UP also covers expenses for participation in international conferences on a yearly basis. Ministry of Educations offers small scientific projects and covers Open Access publications. Number of teaching staff participates in COST and Erasmus+ projects. Applications have been made for Horizon projects, as well.

Regarding teaching, the UP Center for Excellence in Teaching provides modern teaching training for the development of teaching capacities. Teaching staff are encouraged to engage in such courses and improve teaching methods. Students have minor complaints about teaching and exams.

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)

The external associates engaged in the teaching process satisfy all requirements as regular staff. The procedure for election is similar.

### **ET recommendations:**

- 1. The requirements in *Regulation on Selection Procedures Regarding Appointment, Reappointment and Advancement of the Academic Staff at the University of Prishtina "Hasan Prishtina"* are the same for all disciplines. ET suggests investigating possibilities of creating individual requirements for each scientific discipline. For example, the BScM is modelled after the similar program at the University of Zagreb, where requirements in terms of number of published papers for each level are twice or even three times larger.
- 2. One of the requirements is long-term international mobility.
- 3. Increase collaboration with international research and teaching staff through short-term or long-term visits, or on-line.

### 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 expected learning outcomes of the study program are briefly but adequately discussed in the SER (p.20) and are also available for students on the website. The learning outcomes of the study program are well aligned with the strategic goals of the institution and convincingly develop academic (mathematical) skills to prepare students for the labor market and for societal challenges of their future profession.

The learning outcomes are also adequately designed to help students acquire the competencies needed for their job. They are written in a student-centered attitude. The outcomes are clear, measurable, and aligned with the program's overall objectives.

However, the learning outcomes of the program and curriculum are not adequately structured – it should comply with the standard European classification of learning outcomes to three components: knowledge, skills, and competencies and describe how these outcomes are in line with the level and profile of qualification gained by the students.

Although it is stated in the SER that the outcomes are comparable to those offered in the University of Zagreb, no further specifications or comparison are provided in this term.

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

It is well assured that the intended learning outcomes of the study program overall comply with the National Qualifications Framework and the descriptors of the European Qualifications Framework (EQF) belong to this level of study. Moreover, this program is somewhat unique in Kosovo that offers Bachelor studies in mathematics and that is also related to the applications of mathematics.

# 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 curriculum is well structured overall, the courses follow a logical flow. The curriculum is well aligned with curricula of similar study programs delivered in the EHEA. The core disciplines in the various subfields of Mathematics necessary for achieving the learning outcomes and acquiring the foreseen competencies in the respective fields are adequately covered by the program courses.

The study program is overall a good mixture of theoretical and applied courses. The curriculum contains the necessary courses on the basis of which students can acquire the required skills and competences. These skills will enable the graduates to stand their ground either in the academic field or in companies. The teaching methodologies fit well for the courses and the expected outcomes. Due to the nature of the field, there is no need for very specific teaching materials, but everything needed is ready to use. It is positive that since the last accreditation, online materials and a Learning Management System have been set in place for each course.

That said, there are some places where further improvement is necessary. The language R was a popular computer language for a short period, but nowadays Python is used for these statistical purposes – it must be changed in the curriculum. For students interested in Statistics it can be problematic that the introductory course (Statistics) and the elective advanced course (Selected chapters from theory of probability and statistics) are in the same semester.

Although it is briefly mentioned in the SER that the study program is comparable to similar study abroad programs and allows graduate students easy access to study abroad in other cycles, no further details or specific comparisons are provided in this term.

# 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 is fully in line with the conditions defined in the specific EU Directives. Also, the program is in full compliance with the Bologna system.

# Standard 4.5 The intended learning outcomes of the student practice 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)

There is no obligatory and credited practice period of the study program.

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

It is clear from the SER that during the creation of the course syllabuses, the teaching and learning component with the student-centered teaching was fully taken into account. What the ET learned from the site visit is that during their studies, students are exposed to and experience appropriate teaching and learning methods. Student-centered teaching is continuously

implemented and fully internalized by teachers. The pedagogical approaches adopted focus on the development of students' competences. Modern IT tools, such as interactive smartboards, various simulations and presentations by students through weekly assignments and seminar projects are applied.

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

The syllabi of the courses of the study program adequately describe the correspondence between the overall intended learning outcomes and the contribution made by each individual course to achieve those learning outcomes.

Student achievements are mostly assessed by applying standard methods of the field, and further processes are also in line with the standards of the European Higher Education Area.

One important exemption is that "Participation" is part of the assessment (up to 10%), which is not in line with the international standards, and has no real merit. This must be eliminated from all of the courses.

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

The workload is adequately calculated for each course, and credits are assigned to all learning activities that lead to the program's learning outcomes. The number of credits, and the entire crediting system are proportional to the workload in each phase of the study program, and this is adequately evaluated throughout the studies of the students.

### **ET recommendations:**

- 1. The learning outcomes of the program and curriculum should be described following the standard European classification of learning outcomes to three components: knowledge, skills, and competencies.
- 2. The language R should be replaced by Python which is now widely used for statistical purposes it must be changed in the curriculum.
- 3. For students interested in Statistics it can be problematic that the introductory course (Statistics) and the elective advanced course (Selected chapters from theory of

probability and statistics) are in the same semester. If possible, these two courses could be separated.

- 4. "Participation" as part of the assessment (up to 10%) must be eliminated from all of the courses.
- 5. The introduction of some AI related courses would be welcome by both, students and employers. The staff of the Departments can do this, but it can also be done jointly with CS or EE Departments of other faculties.

### **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)

Student admission follows a process initiated by a public call for applications, detailing the admission criteria that all candidates must meet. The number of students to be admitted is determined by the department and approved by the faculty council and university senate, within the limits set by KAA. Preliminary results are published on the faculty webpage to maintain sufficient transparency. Candidates dissatisfied with the results are allowed to file a complaint within a specified deadline, ensuring accountability. An admission committee, proposed by the department and approved by the faculty council, oversees the entire process to ensure fairness and consistency (https://apliko.uni-pr.edu/).

Candidates are eligible to apply if they have obtained a high school diploma or an equivalent educational credential. This requirement ensures that prospective students have sufficient background for bachelor's level studies. Candidates who have completed their high school education abroad may also apply, provided their diploma is recognized by the Ministry of Education, Science, and Technology (MEST) of the Republic of Kosovo. This opens the door to a diverse range of educational backgrounds within the bachelor's program.

# 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)

Student knowledge is assessed through various methods, including exams, colloquia, seminar papers, practical tests, and project presentations. Exams are organized by course professors and teaching assistants during specified terms (January, June, and September). Students receive prompt and continuous notification of their exam results via SEMS or emails. They can request individual sessions with professors if they have concerns about their evaluation. If there is disagreement with the assessment, students can submit a complaint to the Dean, which may lead to a review by a faculty-appointed commission, ensuring fairness and transparency.

The SEMS electronic platform (<u>https://sems.uni-pr.edu/</u>) records and confirms student performance at the end of each semester, serving as a central repository for student records. This ensures accessibility for administration, faculty, and university management, prioritizing transparency and accountability. To complete their studies, students must fulfill all obligations, successfully complete master program courses, and defend their thesis. Upon meeting these requirements, they are awarded the title of Bachelor of Arts.

The university ensures that students can complete their studies within a reasonable timeframe - nominal 3 years. Nevertheless, there is a possibly to extend this period up to six years, known as the double period of the study duration. In special cases, students may request an extension of one or two additional years if they are unable to fulfill all obligations within the prescribed period. This request must be justified and submitted to the faculty council for consideration. This approach gives students a lot of flexibility.

Records are stored in SEMS and analyzed at the department level. If a course shows low completion rates, the professor meets with the department head to address issues and develop improvement strategies. This analysis is also conducted annually for the entire program, ensuring proactive measures to enhance educational quality and student success.

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

According to meetings with students, all are aware of the opportunities for international exchange programs. Each faculty has a designated person responsible for promoting these opportunities and guiding students through the process of temporary relocation to another HEI.

The study program recognizes qualifications gained from other higher education institutions. However, students have pointed out issues related to uncertainties in student exchange programs, particularly the concern that spending a semester abroad may not yield all the necessary credit points. Therefore, it is recommended to benchmark study courses to prepare transparent and comprehensive offerings without unexpected outcomes.

To date, the study program has not attracted any international students. From their perspective, UP needs to identify and promote a unique selling point. Although courses can be offered in English, the website lacks information on the benefits of studying in Prishtina. RT believes there are opportunities to reach potential students, but better advertising and transparency of UP's offerings, including the mathematics program, are needed.

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 21

### 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 faculty and the entire university provide essential resources to support students. They offer high flexibility for mature students, working students, students with learning difficulties and disabilities, and other groups. However, not all information is clearly articulated and formalized. In general, the rights and duties of students are clearly defined in the Statute of the University and regulation for bachelor studies, which can be accessed through the university and faculty websites. Students are entitled to specific rights as well as obligated to fulfil certain responsibilities.

Additionally, student representation is facilitated through different entities within the university's framework. At the university-wide level, the <u>Student Parliament</u> functions as a key forum for student advocacy and representation. On a more local scale, each faculty generally has its own Student Council, which focuses on addressing student issues and advancing their interests.

In addition to obligatory consultation hours (3h per week), students are actively encouraged to approach teaching staff for any relevant requests or needs. This open-door policy fosters a supportive learning environment and facilitates student-teacher interaction. Furthermore, to accommodate special cases or students' preferences, consultations can also be conducted online upon request. This learning support is appreciated by students, and it mitigates learning difficulties or inequalities.

Students with disabilities can count on adequate support from the faculty site, in particular for different deadlines and adjusted forms of assessment. The university aims to help achieve educational goals for students with physical disabilities, learning disabilities, persistent illness or short-term illness. The department instructs teachers to be extra careful on special cases. At the university level there is an office which assists students with disabilities. With all available support every student has equal chances in achieving learning outcomes although ET recommends publishing more information with relevant regulations on the UP website.

UP offers services of Career Development Center (CDC), which are dedicated to assisting not only students and alumni but also others seeking guidance. The CDC aims to facilitate personal and professional growth by offering a range of services including information provision, counselling, training, employer mediation, academic advising, and various other activities. While CDC has a dedicated webpage linked to the faculty, there is a recognized need to further tailor its offering to meet the specific requirements of students. More efforts are required to align CDC's activities with the unique demands of mathematics students to ensure their successful career development.

The faculty has not established an alumni network, and the alumni website is blank, therefore ET recommends preparing a platform for the creation of professional relations between alumni

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

#### **ET recommendations:**

- 1. Enhance the recognition of semesters spent at foreign universities to prevent course gaps during study abroad programs.
- 2. Strengthen efforts on advertising of UP internationally to reach abroad students.
- 3. Publish information for available support for UP students, including students with disabilities.
- 4. The career center should also be focused specifically on the FMNS, rather than being generalized for the entire university.
- 5. The faculty should establish a good working alumni network to strengthen the beneficial connection of professionals with graduated HEI.

### 6. RESEARCH

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

The BScM program is in alignment with the UP Strategic Plan 2023-2025 with respect to teaching and research. The goal is continuous improvement of research quality to reach the international standards and the quality of best European HEIs. Research output is one of the main criteria for the advancement of teaching staff, and research is facilitated by sufficient financial and logistical support from UP and FMNS.

The FMNS is one of the best faculties in terms of scientific research, and members of the Department of Mathematics publish high-quality research. However, in the last three years the regular professors from the department published approximately one paper per year (or less) on average. This efficiency must be improved to reach the research level of the respective departments in the EU. Several professors publish two or three papers per year, but some demonstrated no activity.

It is noted that UP has universal *Regulation on Selection Procedures Regarding Appointment, Reappointment and Advancement of the Academic Staff at the University of Prishtina "Hasan Prishtina"* (<u>https://fshmn.uni-pr.edu/page.aspx?id=1,117</u>). Requirement for minimum of five research papers for Full Professors and Assistants Professor is lower that what is expected for professors of Mathematics in standard HEIs.

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.ž

The academic staff of the Department of Mathematics have a solid research result on the topic of their teaching activity. They publish in respectful journals and present their research at excellent international conferences. However, some members of the academic staff have shown no record of research during the last three years. The UP gives support in terms of financing papers cited in WoS and SCOPUS and visits to international conferences.

Recently, the Department of Mathematics started a Mathematics Seminar, where former students who completed doctoral studies abroad present their work, either in-person or on-line. The seminar is very active.

## 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.

The academic staff is encouraged to participate in different aspects of national and international cooperations two-fold: first, the cooperation and scientific output is prerequisite for advancement and reelections, and second, there is financial support for such activities, by UP and the Ministry of Education. There is a need for larger incoming and outgoing short- and long-term mobility. This particularly holds for the part of staff which showed less scientific activity during the last period.

### 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.

The situation is like in most other similar departments at the European HEIs. Teaching advanced courses coincides well with research activities of the teaching staff, while teaching of basic courses can be done by all members of the staff.

#### **ET recommendations:**

- 1. Individualize UP rules for advancement for various disciplines and raise requirements for Mathematics.
- 2. Increase scientific output of the entire Departments and all members of staff individually.
- 3. Establish doctoral studies, either own or joint. This will be a great resource of young researchers and will increase the scientific output of the department.

- 4. Consider focusing on modern areas of applications, like AI.
- 5. Increase the number of outgoing and incoming scientific visits.
- 6. Increase the number of long-term visits in both directions.
- 7. Continue to apply to Horizon or similar high-quality EU and international grants.
- 8. Increase number of applications to grants for young researchers (UP Strategic Plan 2022-2025, Specific objective 2, <u>https://uni-pr.edu/page.aspx?id=2,49</u>)

### 7. INFRASTRUCTURE AND RESOURCES

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

The overall infrastructure of UP is sufficient to technically support the study program and is partially adapted to students with special needs but there is still room for improvement in a few areas. First, the building of FMNS is not a modern one therefore in some places it requires renovation or greater adaptation towards internal stakeholders needs. Fortunately, the faculty authorities are aware of these demands and are eager to improve infrastructure within available financial resources. Moreover, a new faculty building will be put into service in the upcoming years, so it could solve many local-like problems such as group workrooms or more space for computer laboratories and mathematical exercises.

The current number of classrooms and available equipment (assigned to the faculty) allow covering the study program within actual learning capabilities. At the site-visit, ET verified that the available hardware and software equipment is also adequate. Since the last accreditation procedure, a new computer laboratory has been established using local resources, and the purchase of a new server and the establishment of another computer laboratory are on its way.

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

The faculty has its own 60-metre-square library with relevant literature and computers. Although at the time of site visit the number of books in the core topics of mathematics is limited, the faculty made some efforts to widen the portfolio of the library. Moreover, the opening hours of the library have been extended, which is positive. That said, the increased access through subscriptions to Albanian and foreign publications and periodicals, which was one of the critical recommendations of the previous evaluation report, has not been implemented, which is a drawback – even if it is not necessarily a faculty-level problem.

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

During the onsite meeting it was clarified that the University is financially well supported by the government, and the strategic plan to move to another, modern building is foreseen in the upcoming year. That said, the SER itself does not provide detailed information about the financial background of the study program, no specific calculation, no budget details, and no future plan can be found in the SER. Through national and international projects, it is well presented what type of additional resources the HEI or the Faculty has gained which can be transferred specifically to the development of this study program.

### **ET recommendations:**

- 1. A more detailed calculation of the budget at faculty-level and program-level must be made in order to support further strategic decisions about the study program.
- 2. The access to large scientific databases must be further increased and widened.

### FINAL RECOMMENDATION OF THE ET

The following table summarizes overall compliance of the study program Bachelor of Mathematics at the Faculty of Mathematics and Natural Sciences of the University of Prishtina "Hasan Prishtina" across all general areas:

Standard	Compliance level
1. Mission, objectives and administration	Fully compliant
2. Quality management	Fully compliant
3. Academic staff	Fully compliant
4. Educational process content	Substantially compliant

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5. Students	Fully compliant
6. Research	Partially compliant
7. Infrastructure and resources	Fully compliant
Overall compliance	Fully compliant

Thus, the study program has demonstrated full compliance in mandatory areas, as well as overall full compliance. Therefore, the Expert team recommends accrediting the study program Bachelor of Mathematics at the Faculty of Mathematics and Natural Sciences of the University of Prishtina "Hasan Prishtina" for the period of five years with yearly enrollment of 60 students.

### **Expert Team**

Chair		
	Miklos Hoffman	3.3.2025.
(Signature)	(Print Name)	(Date)
Member		
Vous flapmidar	Ivan Slapničar	3.3.2025.
(Signature)	(Print Name)	(Date)
Member		
D Michalots		
-	Damian Michalik	3.3.2025.
(Signature)	(Print Name)	(Date)
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