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Kosovo Accreditation Agency

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***UNIVERSITY OF PRISHTINA “HASAN PRISHTINA”  
FACULTY OF MATHEMATICS AND NATURAL SCIENCES  
DEPARTMENT OF MATHEMATICS***

***BSc PROGRAM  
MATHEMATICS***

***RE-ACCREDITATION***

**REPORT OF THE EXPERT TEAM**

*MARCH 29, 2022*



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## 1. INTRODUCTION

### 1.1. Context

**Date of site visit:** April 8<sup>th</sup>, 2021, on-line

**Expert Team (ET) members:**

- *Prof. dr. sc. Ivan Slapničar, University of Split, Croatia, Chair*
- *Cristina-Ramona Fit, Student Expert*

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

- *Flamur Abazaj, Senior Officer for Monitoring and Evaluation*
- *Arianit Krasniqi, Senior Officer for Accreditation and Evaluation*

**Sources of information for the Report:**

- *Self-evaluation Report “MATHEMATICS - BACHELOR”, 2021 (no precise date) including course catalogue*
- *KAA Accreditation Manual – Updated 2021*
- *Syllabi*
- *Staff CVs (Full time, Part time)*

### List of abbreviations

UP - University of Prishtina “Hasan Prishtina”

SUP – Statute of the UP

FMNS – Faculty of Mathematics and Natural Sciences of the UP

SER – Self-evaluation Report for the study program *Mathematics – Bachelor* of the FMNS, 2021

NQF – National Qualifications Framework

CI – Cover Letter of the FMNS

KAA – Kosovo Accreditation Agency



### ***Requested documents***

#### **Mission, objectives, and administration**

1. Explain how are learning outcomes connected to the National Qualification Framework (S1.2)
2. Provide documents on formal policies, guidelines, and regulations and public links to those documents (S1.4) including regulations on student assessment and regulations on Bachelor's Thesis
3. Regulations on ethical conduct and public links to them (S1.5)
4. Documentation on the last revision according to S1.6.
5. Documentation and/or link to documents regarding how concepts of gender justice and the promotion of equal opportunities for students are put into practice (PI1.5)

#### **Quality management**

1. Provide documentation on quality evaluations with an overview of issues for the overall program, considering inputs, processes, and outputs with particular attention given to learning outcomes for students. (S2.4)
2. Provide documentation on graduates' surveys, employment outcome data, and employer feedback (PI2.1).
3. Provide Plan of activities by the Coordinator for Academic Development (SER, page 11, paragraph 3).
4. Provide an Improvement plan after the last assessment prepared by the Dean (SER, page 11, paragraph 3).
5. Provide examples of recent filled Academic staff questionnaires – for faculty, for teaching and learning, for research scientific activity. (SER, page 12, paragraph 6)
6. Provide examples of recently filled questionnaires for administrative staff. (SER, page 12, paragraph 7)
7. Provide examples of recently filled student questionnaires about teaching, learning, practical / laboratory work, and infrastructure services. (SER, page 12, paragraph 8)
8. Provide examples of recently filled student assessments on the subject matter and teaching (SER, page 12, paragraph 9).
9. Provide public links to results of recent evaluations under items 5, 6, 7, and 8.
10. Provide recent examples of follow-up procedures and examples of improvement of curricula based on outcomes of previous evaluations (SER, page 13).

#### **Academic staff**

1. Provide full position descriptions and conditions of employment given to candidates for employment (S3.1)



2. Provide evidence of recent academic staff evaluations, in particular, self-and peer- and superiors- evaluations, and link to where are they publicly available (S3.8).
3. Provide the latest documentation for strategies for quality enhancement (S3.9).
4. Provide descriptions of training programs in teaching skills and links to those descriptions (PI3.2).
5. Provide data on how many teachers take part in training programs, and how is their advancement monitored (PI3.3)

### **Educational process content**

1. Explain how generic skills are acquired by the program (there is no mention of those in any learning outcome) (S4.1)
2. Provide proof of compliance of the program with the National Qualifications Framework (S4.2)
3. Provide an example of an Activity report for student practice and documentation on assigning tutors (S4.11)
4. Provide an example of teachers using new IT strategies, in particular, Learning Management System (PI4.2)
5. Provide examples of assessment of teaching strategies and adjustments made in response to evidence about their effectiveness (PI4.3)

### **Students**

1. Provide a document about students' rights and obligations and link to that document (S5.9).
2. Provide document on regulations regarding students' transfer (S5.10)
3. Provide documents regarding the system of monitoring and coordinating students' workload across courses. Provide evidence of actions taken. (PI5.2).
4. Provide links to descriptions of support services (PI5.4).
5. Provide data on students who graduated for the years 2019, 2020, and 2021, including the respective year of enrolment, number of exams taken (if possible), male/female, students with scholarships (SER, pages 68 and 75)
6. Provide data on Student organization within the institution, including data on the latest election, number of members, and activities (SER, page 75, last paragraph)
7. Provide data on Erasmus+ incoming and outgoing students (SER, page 74)

### **Research**

1. Provide a document that defines scientific/applied research objectives (S6.1).
2. Provide a document describing policies for ownership of intellectual property (S6.9).
3. Provide a document describing students' involvement in research projects and other activities (S6.10)



4. Provide documents on monitoring and supporting staff's contribution to attracting financial resources through research/applied projects and products and how is staff capacity to generate such financial returns considered in the individual performance review system (PI6.5).
5. Provide evidence of cooperation with local industry (PI6.6).

#### **Infrastructure and resources**

1. Provide descriptions of adequate software used for disciplines of the study included in the curriculum and provide utilization licenses (in the case of public or open-source software, stating the license is enough)
2. Provide data about the library: number of seats in reading rooms; the number of seats in group workrooms; contents and relevance of book stock; and subscriptions to Albanian and foreign publications and periodicals (S7.5 a, b, c, d, e).
3. Provide evidence of infrastructure and facilities adapted to students with special needs (S7.6).

#### ***Received documents***

##### ***General documents***

- Cover letter with the list of all supplied documents and explanations of how these documents are related to respective standards and performance indicators (CL for short).
- *National Qualifications Framework*, Prishtina, 2011 (NQF for short). Comment: *This is a very old document, and the references are made to pages 31 and 56 which do not make sense. It is unclear why the more recent document from 2020 was not provided.*
- *Statute of the University of Prishtina "Hasan Prishtina", 2012 (SUP for short).*

##### ***Documents related to particular items***

#### **Mission, objectives, and administration**

1. The explanation is given in document CL how is Program connected to NQF. However, the described connection is on the general level and not on the level of learning outcomes that are specific to the Program. Also, the references are made to pages 31 and 56 which do not make sense. It is unclear why the more recent document from 2020 was not provided.
2. Explanation is given about the procedure of how the program and changes in the curriculum are approved through the Department, Faculty Council, and University Senate. Document "REGULATION FOR UNDERGRADUATE STUDIES – BACHELOR", University of Prishtina, 2019,



is provided. The document contains regulations of student rights and duties, evaluations, and Bachelor's Thesis.

3. Provided is the document *Code of Ethics for the Academic Staff of the University of Prishtina "Hasan Prishtina"*, 2013. The link to the document is not provided. The Albanian version of the document can be found of the web page of the University.
4. Provided is the Self-evaluation report for the revision (accreditation) of the Bachelor and Master programs Mathematics from 2019 and the Report of the Committee.
5. Documents and/or link to documents regarding how concepts of gender justice and the promotion of equal opportunities for students are put into practice are not provided. Reference is made to Article 8 of the SUP, which is affirmative but very general and it is not clear if that refers to both, academics and students.

### Quality management

1. Provided are *Self-Evaluation Reports* from 2019 and 2021. No documentation is provided about external or internal audits.
2. *University Questionnaire for Graduates* is provided. No data on performed surveys are given, nor are any data on employer feedback.
3. Provided is the *Plan of Activities for Academic Development Office of University of Prishtina "Hasan Prishtina 2020-2022"*.
4. Provided is the *Quality Monitoring Plan 2021-2024* issued by the Faculty. Evidence of any actions that were carried out is not provided.
5. Provided is one example of the filled *Academic Staff Questionnaire*. Neither a summary report nor analysis is provided.
6. Provided is one example of the filled *Questionnaire for the Administrative and Support Staff of the University*. Neither a summary report nor analysis is provided.
7. *Questionnaire Student Evaluation for Teaching and Courses* is provided. An example of the analysis of one course is provided. The analysis does not include a comparison with teaching staff at the Faculty and University. Questionnaires about laboratory work and infrastructure services are not provided.
8. Only documentation under item 7. Is provided.
9. Public links to results of recent evaluations under items 5, 6, 7, and 8 are not provided. Comment in CL states that "Such data are not publicly available because the University considers this issue as an Internal policy".
10. Examples of follow-up procedures and examples of improvement of curricula based on results of the above questionnaires are stated in CL as follows:
  - Now it is mandatory for all the teaching staff to present the course syllabus at the beginning of the semester.



- There is an electronic system for registering teaching hours of the academic staff that improved the teacher's attendance during the semester.
- Now it is mandatory for all academic staff to have dedicated time for student consultations
- The Faculty has established the committee for quality assurance in order to monitor if the recommendations of accreditation experts are fulfilled.

### Academic staff

1. Provided is *Job Description for Coordinator of the Office for Academic Development*. Job description for academic staff is not provided.
2. Provided is one example of *Summary Data of Evaluation of Academic Staff by the Students* (undated). Provided are *Questionnaire for Academic Staff* and *Self-Evaluation Report for teaching Staff* form. Examples of individual self- and peer- and superiors- evaluations are not provided. The link where evaluations are accessible is not provided.
3. Provided is *Regulation on Quality Assurance and Evaluation at the University of Prishtina*.
4. The reference is made to the *Center for Teaching Excellence of the University of Prishtina*. The web page of the Center, <https://qpm.uni-pr.edu/En/per-ne/>, provides descriptions of training programs in teaching skills. Provided is the document *Regulation on the Structure and Work Principles of the Center For Teaching Excellence at the University Of Prishtina "Hasan Prishtina"*.
5. In CL it is stated: *All the teachers who are mentioned in the SER have taken the two levels of training programs for teaching. In the Department of Mathematics, there are only three newly employed academic staff members who didn't do the training for teaching. The advancement of staff members is monitored through SEMS (electronic management system), and physically by the Center when they attend on the UP premises.*

### Educational process content

1. Provided is the document "Guidelines for the Evaluation of Classes and the Use of their Results". An explanation of how generic skills are acquired by the program is not provided.
2. The same answer is given as in the section *Mission, Objectives, and Administration* under item 1. No explanation or proof of adherence of the Program to the NQF at a more detailed level is provided.
3. Example of a filled *Evaluation Form for Practicant Performance* is provided. The form is very elaborate and dully filled out.
4. Statement about teachers using IT for distance learning (Google Meet and Zoom) is provided in CL. No evidence of using the Learning Management System is given. However,





teachers and students in the interview corroborated the usage of Moodle. However, Moodle is maintained locally, and no university or faculty-wide installation is available, which is strongly recommended.

5. In CL, the following statement about teaching strategies is made: *Teaching strategies that are being used by our professors in our program, mathematic courses, are mainly visualization (using whiteboard), smartboard, cooperative learning (by dividing students into groups, putting in groups students with different skills so they could learn from each other) and differentiation through short quizzes in the beginning of class asking questions from the previous class, while on courses from economy and computer science, they use also inquiry-based instruction, by provoking students with questions that will increase critical thinking to students. On Computer science subjects, teachers offer professional developments by teaching new and effective educational technology.*

### Students

1. Students' rights and obligations are defined in Articles 145-154 of the *Statute of University of Prishtina "Hasan Prishtina"*. In the provided document the reference is made to those articles.
2. *Regulation on the Student Academic Mobility In The University Of Prishtina "Hasan Prishtina"* is provided.
3. In CL, the following statement is given: *The coordination regarding teaching aspects, practical work is discussed and decided in periodic meetings that are held with the Heads of the Departments every week (Monday at 10:30-11:30) and also the SEMS (Electronic Management System).* No minutes and conclusions of these meetings are provided.
4. *Career Development Center of the University of Prishtina* provides contact with students through its Facebook page, <https://www.facebook.com/qzhkunipr/>. Students can also use the Intranet page <https://ekarriera.uni-pr.edu/>.
5. In CL, data on enrolled and graduated students for recent academic years are provided as follows: 2019/20 – enrolled 28, graduated 17; 2020/21 – enrolled 50, graduated 21; 2021/22 – enrolled 51, graduated 12. In the academic year 2021/22, 71 students of Mathematics received government scholarships.
6. Provided are regulations on students' organization and student elections at the University of Prishtina "Hasan Prishtina" (in Albanian). No data about the student organization, membership, latest elections, and activities were provided.
7. Provided is the list of all ERASMUS+ incoming students from the year 2017. University received between 150-200 students each academic year, and only a few of them visited the Department of mathematics.



## Research

1. In CL, the following statement is given: *Professors are mainly engaged in research, individually or in cooperation with other professors since it is a part of their promotion in University, and they have to do at least 3 scientific papers for associate professors or 5 papers for full professors, but also we have very active professors that put targets for themselves to do more papers (at least one per year).* These requirements are very low. For example, professors at the University of Zagreb, need to publish 3, 9, and 15 papers, respectively. The good thing is that many of the professors of the Department publish more than the required minimum.
2. In CL, the following is stated: *The policies about intellectual properties are described in the SUP, Article 47.*
3. In CL, two examples of papers published by Bachelor students of Mathematics are given:  
<https://zbmath.org/authors/?q=ai%3Akrasniqi.valmir-b>  
<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.604.7154&rep=rep1&type=pdf>
4. Provided is the “Regulation on the financing of scientific, artistic and sports research work at the University of Prishtina”. Provided are also links to two journals that are managed by the professors of the Department: <http://ecajournal.haifa.ac.il/> and <https://ecajournal.kms-ks.org/>. Documents on monitoring staff’s contribution to attracting financial resources and how is this capacity considered in the individual performance reviews are not provided.
5. Provided is the Agreement of Cooperation between the Faculty and the company Ninety One Holding, Inc.

## Infrastructure and resources

1. In CL, it is stated that the software needed in the curriculum is open source.
2. In CL, data about the library are provided: *Number of seats in the reading room is 15 (with computer support), also we have additional 14 seats in rooms for group-work and we have about 1500 – 2000 books, while for specific needs there are about 1000 books.* It appears that neither Faculty Library nor University Library is accessible through web pages. No details on subscriptions to Albanian and foreign publications and periodicals are provided.
3. In CL, the following statement is made: *We have arranged conditions for students with special needs only on the first floor (we did not have or actually have any students with special needs). Also, with the construction of the new building of the Faculty, which is in the procedure, the students with special needs will have the necessary and sufficient conditions.*



### Criteria used for program evaluation:

- *Standards and performance indicators for external evaluation according to the Accreditation Manual of KAA, Updated 2021*

### 1.2. Site visit schedule

| Programme Re-accreditation Procedure at <b>Faculty of Mathematical and Natural Sciences at the University of Pristina</b> |  |
|---|--|
| Programme:  | <b>Mathematics, BSc</b>  |
| Online site visit on:   | <b>16 February 2022</b>  |
| Expert Team:  | <ul style="list-style-type: none"> <li>• Dr. Ivan Slapnicar</li> <li>• Cristina-Ramona Fit</li> </ul>  |
| Coordinators of the KAA:  | <ol style="list-style-type: none"> <li>1. Flamur Abazaj, Senior Officer for Monitoring and Evaluation</li> <li>2. Arianit Krasniqi, Senior Officer for Accreditation and Evaluation</li> </ol> |

| Site Visit Programme |  |  |
|----------------------|--|--|
| Time                 | Meeting  | Participants   |
| 09:00 – 09:45        | Meeting with the management of the faculty where the programme is integrated | Idriz Vehapi<br>Sefer Avdiaj<br>Avni Berisha<br>Kajtaž Bllaca<br>Jeton Hyseni          |
| 09.50 – 10.35        | Meeting with quality assurance representatives and administrative staff      | Illir Mazreku<br>Besnik Loxha<br>Artan Alidema   |
| 10:40 – 11:40        | Meeting with the heads of the study programme:                               | Muhib Lohaj<br>Kajtaž Bllaca<br>Elver Bajrami  |
| 11:40 – 12.25        | Lunch break (provided at the evaluation site)                                |  |
| 12:25 – 13:10        | Meeting with teaching staff  | Qendrim Gashi,<br>Menderes Gashi,<br>Behar Baxhaku,<br>Eliot Bytyci,<br>Manush Mustafa |
| 13:15 – 14:00        | Meeting with students  | Duart Nishefci<br>Arben Hajredini  |



|               |  |  |
|---------------|--|--|
|               |  | Andi Sejdiu<br>Admir Krasniqi<br>Korab Latifi,   |
| 14:05 – 14:50 | Meeting with graduates   | Uran Meha,<br>Vlerë Mehmeti,<br>Erion Hamiti   |
| 14:55 – 15:40 | Meeting with employers of graduates and external stakeholders  | - SHML “Xhevdet Doda”<br>Prishtinë,<br>- SHML “Gjon Buzuku”,<br>Prizren,<br>- SHML “Aleksander<br>Xhuvani”, Podujevë,<br>- “Ninety one Holding,<br>Inc.” |
| 15:40 – 15:50 | Internal meeting of KAA staff and experts                      |  |
| 15:50 – 16:00 | Closing meeting with the management of the faculty and program |  |

#### Overall instructions for HEIs:

1. No presentations of any kind are allowed, as the meetings are intended to be free discussions
2. The students selected for the meeting should reflect a diversity in terms of fields of study, programme, study cycle, year of study, students with special needs if any, etc.
3. The teaching staff selected for the meeting should reflect a diversity in terms of faculties and programmes, full-time and part time, local and international, etc.
4. The students, graduates, and employers of graduates should not be employed at the institution.
5. Anyone whose attendance won't be agreed in advance with KAA, and the Expert Team will be asked to leave the interview session.
6. Nametags are to be provided for all people attending the meetings.

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

#### *The University*

University of Prishtina “Hasan Prishtina” (UP) is a public institution, the largest in the country in terms of higher education provision. Under its umbrella, the UP has a total of 14 academic units and holds state and civic responsibility for the proper education of the youth of the Republic of Kosovo, in preparing them as responsible and useful citizens for the needs of Kosovo. In Prishtina and three branches in other cities, the UP has about 55000 students and 2000 academic and administrative staff. It is a member of the European University Association. The academic units are:

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1. Faculty of Philosophy,
2. Faculty of Mathematical and Natural Sciences,
3. Faculty of Philology,
4. Faculty of Law,
5. Faculty of Economy,
6. Faculty of Construction,
7. Faculty of Architecture,
8. Faculty of Electrical and Computational Engineering,
9. Faculty of Mechanical Engineering,
10. Faculty of Medicine,
11. Faculty of Arts,
12. Faculty of Agriculture and Veterinary,
13. Faculty of Physical Education and Sport,
14. Faculty of Education.

The purpose of UP, from its establishment up to date, has been to promote academic and intellectual life and political, economic, and social change in the advancement of Kosovo and its society. UP also has Life Long Learning Center, Center for Excellence in Teaching, Language Center, Computer Center, the Center for Human Rights, Student Services Office, Office for Academic Development, Quality Assurance Unit, International Relations Office, Office for Gender Equality, Finance and Procurement Department, Office for Human Resources and Information Technology Department. These centers, offices, or departments establish policies for Quality Assessment and mechanisms for Quality Assurance based on European models, offer programs for continuing education and training of teachers, preparatory courses for students, etc. UP participates in many EU-funded projects, mostly as a partner, but as well as the coordinator.

### ***The Faculty***

The Faculty of Mathematics-Natural Sciences (FMNS) in Prishtina was founded in 1971, under the decision of the Assembly of Kosovo (Official Gazette of SAP Kosovo No. 37/71). Studies of Natural Science and Mathematics (Biology, Physics, Geography, Chemistry, and Mathematics) have started eleven years ago within the Faculty of Philosophy, founded in 1960. With aims of general advancement of studies, increasing quality and efficiency, and achieving European study standards, the UP and FMNS adopted a study model according to the Bologna agreement (3+2+3) in the academic year 2001/02. After review and evaluation of these curricula, in the academic year 2005/06, the Faculty began implementation of the plan approved by the Senate of the University of Pristina, where several



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departments have re-formulated the system of study in 4+1+3. Currently, the FMNS has approximately 2800 students and 200 staff and administration.

### ***The Program***

The study program *Mathematics – Bachelor* (BSc) is delivered by the Department of Mathematics of the FMNS. The premises are located on the main campus of the UP. The academic degree obtained after completing the program is *Bachelor in Mathematics*. The profile of the program is scientific in nature, and it amounts to 180 ECTS total during three years, based on 1 ECTS per 25-hour engagement. It is a full-time program. The program is taught by a total of 19 academic staff. The ratio between theoretical / exercises is approximately 1:1. The program is comparable to a similar program at the University of Zagreb. The strengths of the program are the ability to cover all lectures by the permanent faculty and staff, the high number of qualified candidates to enroll in the program (3 candidates for one place), and the international comparability of the program. The main weaknesses are a small number of teaching assistants, lack of interdisciplinary programs, and insufficient mobility of students.

The mission and aim of the program are declared as follows:

#### ***Aim and Profile of Study Program***

With its curriculum as well as with teaching methods and forms, the mission and objectives of this program is that this program enables students to acquire basic knowledge and understanding of results in the major fields of mathematics: algebra, analysis, geometry, differential equations, discrete mathematics, probability theory and statistics, numerical analysis, informatics, etc. The theoretical knowledge gained in this program is necessary to understand mathematical methods and techniques and apply them to solve different problems from mathematics, financial mathematics, physics, etc. Students will also get acquainted with mathematical modeling and its various applications. Also, students will be able to understand mathematical proofs, by using logical arguments in proving mathematical statements; to applying mathematical modeling to solving various problems using mathematical as well as IT techniques. The FMNS Advisory Board is also involved in determining the target learning outcomes which are in line with the National Qualifications Framework and the European Higher Education Area Qualifications Framework.

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### ***Expected Learning Outcomes***

By the end of the study program, the student will be able to:

- Know basic concepts and propositions (statements) from the main areas of mathematics, basic IT concepts, including algorithmic thinking and programming;
- Understand the meaning and importance of the mathematical proof;
- Communicate and exchange mathematical ideas in verbal and written form;
- Demonstrate the ability to understand and solve problems in mathematics and other areas;
- Explain, interpret and offer examples and ideas from the field of mathematics;
- Apply acquired mathematical knowledge to model and solve problems in various fields of science and everyday life;
- Use mathematical software packages to solve problems from different fields.

### ***The Rationale of the Program for the Labour Market***

Every modern society and economy benefits greatly from the study of basic sciences and mathematics, as well as their application in other areas. We can't imagine a developed society: economically, technically, educationally, etc. without proper mathematical education of that society. This is evidenced by the many examples we have today around the world. Mathematics is essential for the exact sciences and other fields, including information technology (IT), banking and insurance, etc. For many, mathematics is unquestionable, along with reading and writing, columns of pre-university education.

Therefore, from what has been said above, it is imperative to have a mathematics study program at the undergraduate level to provide academic abilities to future mathematics teachers and to prepare mathematics researchers, and those who will use their skills, knowledge, and mathematical thinking in their jobs.

The Bachelor of Mathematics Study Program is the only one in Kosovo that offers mathematics studies at the Bachelor's level. This study program represents the first stage in the university education of future mathematicians. Upon completion of this program, bachelor students in mathematics can continue their studies in the Mathematics-Master study program at the FMNS or in the Master's program of subject teaching, Mathematics Specialization, at the Faculty of Education.



Upon successful completion of studies, bachelor students of Mathematics are skilled to work in different fields, such as industry, economy, banks, insurance companies, etc. They can work jobs that are required: analytical thinking and mathematics knowledge to find the optimal solution of a given problem; application of mathematical modeling to solve various problems; ability to systematize, analyze and present statistical data as well as application of IT.

Moreover:

- After completing bachelor studies at FMNS and Master in the Faculty of Education students qualify for teaching in pre-university education.
- Students who show excellent results at bachelor's master's degrees at FMNS qualify for Ph.D. studies and university careers in accordance with legal acts of higher education.

## 2. PROGRAM EVALUATION

### 2.1. Mission, objectives, and administration

In the SER and in Section 1.3 above, the purpose of the study program *Mathematics – Bachelor* is described as equipping students with abilities to understand the theory of mathematics, algorithmic thinking, and programming, and apply acquired mathematical and programming knowledge to model and solve problems in various fields of science and everyday life. The structure of the program is based upon standard mathematical studies that have been delivered at many universities throughout the world but modernized to include programming and applied components.

The Program is well thought-through and has remarkable success in terms of attracting high-quality students, high graduation rates, and employability, as well as demonstrated satisfaction of all stakeholders, the students, the graduates, the employers, and the teaching staff. The success of the Program is in fact so good that important issues like:

- providing explicit formulation linking the intended learning outcomes of the program to the National Qualifications Framework,
- carrying out, analyzing, and publishing results of all foreseen surveys and evaluations, and documenting actions taken,
- setting up and documenting regular internal audits,
- formalizing details of acquiring generic skills,
- using Faculty-wide Learning Management System,
- introducing formative assessment of students during courses for all courses,
- better-aligning staff research with the Program,
- including more students in research,





- establishing Library web page,
- publishing Web pages in English,
- providing details about support services on the University's website,
- increasing student and staff mobility, both outgoing and incoming,

have not been fully resolved.

At the general level of information provided, the mission of the Program complies with the overall mission statement of the institution. Overall, the curriculum of the program is consistent with the mission. Regarding the consistency of the program with the National Qualifications Framework and the Framework for Qualifications of the European Higher Education Area, no evidence-based information was provided in the SER nor during the meetings. Particularly, no explicit formulations which would link the intended learning outcomes of the program to relevant specific levels- and job descriptors were provided.

Regarding the didactic and research concept, the SER contains general statements on didactical approaches and research activities. In the meetings, it could be learned that most teachers use Google Meet or Zoom for e-learning purposes in pandemic circumstances. Also, a Learning Management System (Moodle), which facilitates planning, administration of course materials and grades, and implementation of formative learning, is now being more extensively used. The administration of Moodle is at the departmental level, which is quite a burden, so it should be administered at the Faculty or University level. In addition, the statements on the research concept are more general definitions of objectives, but this cannot replace the description of specific measures that would foster the involvement of students in research activities at the program level as well as on the course level. Also, no concrete linkages were developed to relate teaching and research to each other.

In the SER, during the meetings, and in the additional documents, information was provided on formal policies, guidelines and regulations dealing with recurring procedural or academic issues. It can be assumed that program topics related to administration and quality assurance of the program as well as the interaction between teachers and students as subjects of academic rights and duties are well developed and well-known to these groups.

In the meetings with the program directors, professors, 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.



Worth noting is the impression that teachers and students have very good relationships, and teachers are readily available for consultation. Also, teachers and students have substantial, albeit informal, contacts with employers' representatives.

Finally, the SER lists as a weakness the small number of teaching assistants, and lack of interdisciplinary programs. However, there is at least program that is interdisciplinary in nature, *Financial Mathematics in Banking and Insurance – Bachelor*. We also learned that the challenge is increasing the number of students in the Master's program in Mathematics and establishing doctoral studies. The latter is currently planned jointly with the University of Zagreb. Currently, doctorates are obtained in neighboring countries, or in the EU.

| <b>Standard</b>   | <b>Compliance</b> |           |
|---|-------------------|-----------|
|   | <b>Yes</b>        | <b>No</b> |
| <b>Standard 1.1.</b> The study program's mission is in compliance with the overall mission statement of the institution.  | X                 |           |
| <b>Standard 1.2.</b> 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         |
| <b>Standard 1.3.</b> The study program has a well-defined overarching didactic and research concept.  | X                 |           |
| <b>Standard 1.4.</b> There are formal policies, guidelines, and regulations dealing with recurring procedural or academic issues. These are made publicly available to all staff and students.  | X                 |           |
| <b>Standard 1.5.</b> All staff and students comply with the internal regulations relating to ethical conduct in research, teaching, assessment in all academic and administrative activities.   | X                 |           |



|  |   |  |
|--|---|--|
| <b>Standard 1.6.</b> 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 light of changing circumstances. | X |  |
|--|---|--|

**Compliance level:** Substantially compliant

**ET recommendations:**

1. In the Program Mission and the Program itself, link the intended learning outcomes at the descriptive levels of the National Qualifications Framework for the discipline of Mathematics, once they become available.
2. Integration of modern teaching practices by introducing a common IT Platform (Google Meet, Zoom, Skype, MS Teams, or similar) and Learning Management System (Moodle), at the level of the University or Faculty.
3. Substantiate fulfillment of evaluation standards through evidence-based, empirically testable statements, not normative statements.
4. Monitor all processes by regular yearly audits.
5. We recommend the publication of an annual report of the periodic evaluations of the academic staff. These could show that the university is interested in improving teaching methods, is open to promoting the evaluation results, and could motivate the students since their opinion is taken into consideration.
6. An annual report of the results from the academic, management, and students evaluations would help the University, Faculty, and Department better understand which issues need attention.
7. Increase the number of students in the Master’s program, even internationally.
8. Initiate Doctoral program.

**2.2. Quality management**

The SER contains a description of how quality management at the university works and which instruments it contains. While it was stated in the SER that evaluation and planning for improvement



processes are integrated into the normal planning processes, most of the statements are declarative, and little evidence was provided on whether and how this is achieved practically.

The stakeholders of the QA system are the Senate, Rector, Central Quality Assurance and Evaluation Commission, Office for Academic Development, Quality Assurance Unit, Dean of the Faculty, and Quality Assurance and Evaluation Committee of the Faculty. Among additional documents, provided were *Regulation for Undergraduate Studies – Bachelor*, *Code of Ethics for the Academic Staff*, *Questionnaire for Students*, *Questionnaire for Graduates*, *Questionnaire for Academic Staff*, *Questionnaire for the Administrative and Support Staff*, *Self-Evaluation Report for Teaching Staff*, and *questionnaire Student Evaluation for Teaching and Courses*.

The QA system seems well-founded in theory, with all the necessary documentation and questionnaires, but it seems it is not fully applied in practice. The *Student Evaluation for Teaching and Courses* is obligatory, but the reports do not provide a comparison with the peer teacher in the Program, Faculty, and University, which they should. Also, the set of questions is very basic. Other questionnaires are being used but there is no evidence of analysis, publication of results or using results in making improvements.

On the other hand, strong quality culture is present as demonstrated in meetings with management, teaching staff, students, and alumni. In particular:

- Teachers do carry out changes in curricula, but these changes are discussed in informal staff meetings, without minutes.
- Teachers are readily available for consultations with students at least three hours per week.
- There are regular informal contacts of the teaching staff with representatives of employers.

Furthermore, the QA system has resulted in the following improvements:

- now it is mandatory for all the teaching staff to present the course syllabus at the beginning of the semester,
- there is an electronic system for registering teaching hours of the academic staff that improved the teacher's attendance during the semester.
- now it is mandatory for all academic staff to have dedicated time for student consultation's
- the Faculty has established the committee for quality assurance in order to monitor if the recommendations of accreditation experts are fulfilled.



| <i>Standard</i>   | <i>Compliance</i> |           |
|---|-------------------|-----------|
|   | <i>Yes</i>        | <i>No</i> |
| <b>Standard 2.1.</b> All staff participate in self-evaluations and cooperate with reporting and improvement processes in their sphere of activity.  | X                 |           |
| <b>Standard 2.2.</b> Evaluation processes and planning for improvement are integrated into normal planning processes.   | X                 |           |
| <b>Standard 2.3.</b> Quality assurance processes deal with all aspects of program planning and delivery, including services and resources provided by other parts of the institution.   | X                 |           |
| <b>Standard 2.4.</b> 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         |
| <b>Standard 2.5.</b> Quality assurance processes ensure both that required standards are met and that there is continuing improvement in performance.   | X                 |           |
| <b>Standard 2.6.</b> Survey data is being collected from students, graduates, and employers; the results of these evaluations are made publicly available.  |                   | X         |
| <b>Standard 2.7.</b> 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                 |           |
| <b>Standard 2.8.</b> 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.   | X                 |           |
| <b>Standard 2.9.</b> The quality assurance arrangements for the program are themselves regularly evaluated and improved.  |                   | X         |

**Compliance level:** Substantially compliant



### **ET recommendations:**

1. *Duly carry out all foreseen surveys, analyze them, and make the results publicly available.*
2. *Formalize contacts with alumni and employers and inclusion of their opinions in the development of curricula.*
3. *Consistently publish summary results (even internally, if the University's policy does not permit public dissemination), and take appropriate actions, including action plans for improvement.*
4. *Monitor the processes 1-3 by regular yearly audits.*
5. *In order to ensure netter involvement of students in the quality assurance processes, the ET recommends eliminating the grade criteria for student representatives (such as "1 student representative with an average grade of over 8 and good knowledge of English).*

### **2.3. Academic staff**

According to the SER, there are 19 full-time faculty and 10 adjunct faculty associated with the Program. The full-time faculty consists of four Professors, two Associate Professors, nine Assistant Professors, one Lecturer, and three Assistants. The adjunct faculty consists of three Professors and seven Assistants. Duties of teaching staff include teaching, research, and community service.

The teaching staff is elected according to Articles 174-181 of the Statute of the UP. Many of the senior staff have a commendable proven track record of academic activities in the chosen specialist area, but the formal requirements should be compared to other European universities and differentiated across the scientific fields. For example, current Kosovo requirements for Assistant, Associate, and Full Professor are 1, 2, and 5 published articles respectively, while at the University of Zagreb the respective requirements are 3, 9, and 15 published articles. All teaching staff abides by *The Code of Ethics for the Academic Staff* which defines the professional rights of academic staff, ethical principles, and types of unacceptable conduct.

During the meeting with the teaching staff, the following observations were made:

- Number of full-time Assistants is insufficient.
- Ph.D. studies are currently done abroad since there is no Ph.D. program in Mathematics in Kosovo. Kosovo has several high-class Ph.D. students at the world's leading universities.
- Currently there is cooperation with the University of Zagreb regarding Ph.D. studies.



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- UP financially supports travel to conferences, as well as the publication of high-quality scientific papers.
- There is current improvement in creating a scientific environment by the inception of the regular scientific seminar.
- Teachers, especially junior ones, take two training courses provided by the Center for Excellence in Teaching.
- Teachers are responsible for improving curricula. Change up to 20% can be done without verification for the University and some teachers make changes every year.
- If there is no literature in Albanian, it is checked that the English literature is available on the Internet free of charge, or there are some copies in the library.
- According to teachers, the library is well-equipped due to donations and students use it.
- This is a very good program where students can achieve a lot with BSc. The students are happy since they all find employment easily and are able to perform well in the workplace.
- Students who want to continue studying can do so in the Master's programs Mathematics at FMNS or Mathematical Education at the Faculty of Education. Due to state regulations, only students who aim at a scientific career attend a Master's program in Mathematics. Students who wish to work as teachers must attend a Master's program at the Faculty of Education.
- Syllabus is delivered to students at the beginning of each course. Teachers use Google Meet or Zoom during the pandemic and Learning Management System Moodle.
- The current enrolment is 50.
- There is very small outgoing mobility of several students under the Erasmus scheme. The reason is the difficult recognition of ECTS credits obtained abroad and the general lack of a culture of such visits in the Program. There is little or no incoming student mobility.
- Incoming mobility of teachers and Postdoctoral researchers, which is recognized as a weakness and threat in the SER, is considered a budget problem.



| <i>Standard</i>  | <i>Compliance</i> |           |
|--|-------------------|-----------|
|  | <i>YES</i>        | <i>NO</i> |
| <b>Standard 3.1.</b> 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 the official (valid) contract, the workload for teaching, exams, consulting, administrative activities, research, etc. for the study program under evaluation. |                   | X         |
| <b>Standard 3.2.</b> The teaching staff must comply with the legal requirements concerning the occupation of teaching positions included in the Administrative instruction on Accreditation.   | X                 |           |
| <b>Standard 3.3.</b> 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                 |           |
| <b>Standard 3.4.</b> 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.   | X                 |           |
| <b>Standard 3.5.</b> 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 a Ph.D. title or equivalent title in the case of artistic/applied science institutions.   | X                 |           |
| <b>Standard 3.6.</b> Opportunities are provided for additional professional development of teaching staff, with special assistance given to any who are facing difficulties.   | X                 |           |





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| <b>Standard 3.7.</b> The responsibilities of all teaching staff, especially full-time, include engagement in the academic community, availability for consultations with students, and community service.   | X |   |
| <b>Standard 3.8.</b> 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 |
| <b>Standard 3.9.</b> Strategies for quality enhancement include improving the teaching strategies and quality of learning materials.  | X |   |
| <b>Standard 3.10.</b> Teachers who retired at the age limit or for other reasons lose the status of full-time teachers and are considered part-time teachers.   | X |   |

**Compliance level:** Substantially compliant

**ET recommendations:**

1. Hire an ample number of full-time Assistants.
2. Start Doctoral studies in Mathematics, possibly with help of institutions from abroad.
3. Document all changes in the curricula.
4. Increase the scientific production of staff.
5. Increase the quality and quantity of students' literature in Albanian in a systematic manner.
6. Establish a Web page of the library with displayed working hours and fundus.
7. Systematically collect and analyze students' opinions or comments about the program and make amendments using prescribed procedures, where necessary. The results of the academic staff evaluation should be made publicly available.
8. Introduce an obligatory Learning Management System for all courses at the Faculty level.
9. Keep and publish data on outgoing and incoming mobility of students and teaching staff.
10. Increase incoming mobility through EU projects.
11. In order to increase motivation and awareness about the mobility program, academic staff could share during their classes or during consultations with students details about the availability of Erasmus+ opportunities and encourage students to apply. Students could feel



more incentive to apply for outgoing mobility when academic staff is promoting and encouraging them.

## 2.4. Educational process content

The curriculum is overall very good, which is confirmed by the satisfaction of both graduates and employers, as well as teaching staff. According to the SER, it is modeled upon curricula of other similar programs, notably the BSc program in Mathematics from the University of Zagreb. The curriculum consists of 29 obligatory and 4 elective courses (among 11 offered). Obligatory courses are core and advanced mathematical courses covering Algebra, Analysis, Geometry, Probability, and Numerical Mathematics, with two additional courses in Programming and one in Physics and English. Choice of elective courses includes text processing of mathematical texts, Modelling, Actuarial Mathematics, Data Structures, and Project Management. Students cannot choose elective courses from other departments or faculties.

The internship is not included nor described in the program and is not assigned any ECTS points. The final exam is not assigned any ECTS points. There is no final thesis.

There are some informal contacts with potential employers, but they seem insufficient to better adjust the program to the labor market.

Overall, not much information was provided about the why and how of the curriculum's structure. However, the definition of the learning outcomes at the program level corresponds to level 6 of the European Qualifications Framework in general. The courses represented in the curriculum are provided in a logical flow and they meet the defined competencies and learning outcomes.

Generic skills like teamwork or project management are not explicitly mentioned in the learning outcomes. They are implicitly included in the learning outcome *"Apply acquired mathematical knowledge to model and solve problems in various fields of science and everyday life"* without details on how they will be acquired. However, generic skills are present in some courses through teamwork and problem solving, but also in the specialized course *"Project Management"*.

In both the meetings with professors and students, the information received about the student-teacher relationship was congruent. Students appreciated the availability of teachers for consultation. Students also emphasized the readiness of teachers to give additional support when necessary. The communication of learning objectives at the beginning of the courses was confirmed by students, too. Provisions for fair verification of student achievement are presented in a comprehensible way and its implementation was confirmed in the meeting with students and graduates. For objections of



students against inadequate or inconsistent assessment, regulations are given in the *Statute of the UP*, and no objections to how those regulations are being followed were raised by the students. Also, the workload can be regarded as feasible.

From meetings with teaching staff and students, we learned that all professors use Google Meet or Zoom in the teaching process and that some use Learning Management System Moodle. There is no mention of e-learning and online teaching in the SER, except for the usage of online software in one course.

The individual syllabi are well written and give detailed information regarding content, learning outcomes, teaching methods, and grading. Many, but not all, courses have formative assessments during the semester in the form of periodic tests. The syllabi are not published on the Web page of the faculty, neither in Albanian nor in English. There are several inconsistencies regarding the estimated workload and the assigned ECTS points. Also, according to students, “some courses are more difficult than the others and they need to figure out for themselves how much to study for each course”. None of the students in the interview were aware of the ECTS system and its meaning. Students are aware of the possibilities for Erasmus mobility, but none of the students at the interview took part in the Erasmus program, and the professors did not encourage them to take advantage of this opportunity. Also, students believe that there is a problem in recognizing ECTS points obtained abroad.

Programming courses use Java which could be either replaced or complemented by a more modern language like Python.

Employers, both from educational institutions and companies, commented that finished students are skilled and capable of fulfilling work requirements, hard-working, very analytical, and open to trying new approaches. Another comment was that there is a need to add more practical courses aligned with the need of local companies and that students “need to better understand what they need to learn”.

| <i>Standard</i>  | <i>Compliance</i> |           |
|--|-------------------|-----------|
|  | <i>Yes</i>        | <i>No</i> |
| <b>Standard 4.1.</b> The study program is modeled 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 civil society, and of developing the students’ personalities. | X                 |           |



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| <b>Standard 4.2.</b> 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.   | X    |   |
| <b>Standard 4.3.</b> 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    |   |
| <b>Standard 4.4.</b> 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 the electronic form to the self-assessment report for the study program under evaluation. | X    |   |
| <b>Standard 4.5.</b> If the language of instruction is other than Albanian, actions are taken to ensure that the 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. |   |
| <b>Standard 4.6.</b> 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 student's development.  | X    |   |
| <b>Standard 4.7.</b> 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 the flexibility to meet the needs of different groups of students.   |      | X |
| <b>Standard 4.8.</b> 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.  | X    |   |
| <b>Standard 4.9.</b> 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.   | X    |   |



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| <b>Standard 4.10.</b> Policies and procedures include actions to be taken in to dealing with situations where standards of student achievement are inadequate or inconsistently assessed.   | X |   |
| <b>Standard 4.11.</b> 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 ECTS credits and the work of the students at the practical training organizations is monitored through activity reports; students during practice stages have assigned tutors among the academic staff in the study program. |   | X |
| <b>Standard 4.12.</b> In order to facilitate the practice stages, the higher education institution signs cooperation agreements, contracts, or other documents with institutions/organizations/practical training units.  |   | X |

**Compliance level:** Substantially compliant

**ET recommendations:**

1. Incorporate online teaching elements in the curriculum.
2. Ensure that all courses have some form of formative assessments during semester.
3. Initiate mandatory usage of the Learning Management System for all courses.
4. Correct discrepancies in the ECTS points assignment.
5. Assign adequate ECTS points to the *Internship* and *Final Exam*.
6. Inform all students about the ECTS points system.
7. Publish detailed information about the Program and syllabi in Albanian and English on the Web in order to attract incoming mobility. Also, list courses that can be taught in English, at least through consultations.
8. Implement incentives (at the university level) for teachers to offer their courses in English, especially in the presence of international students.
9. Inform students about the ECTS system and opportunities for international mobility and encourage students to take part in the Erasmus scheme.
10. Make sure that the existing QA system functions properly to ensure timely consideration of students' comments.
11. Consider introducing mentoring.
12. Introduce lecturers from industry in the Program.

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13. Consider structured dialogue with industry in order to better understand and meet their needs and recommendations in terms of program curricula.
14. Replace or complement Java with Python and/or R in programming courses.
15. Consider signing agreements with companies and corporations regarding internships and/or research.

## 2.5. Students

University admission procedures are documented and are applied to the Program. After evaluating previous student admission processes and the graduation reports, and after evaluating the demand for studying in the Program, the Dean drafts the proposal for admission quota. Upon approval by the Senate of the UP, the Announcement for the competition for prospective students is published. Based on this Announcement, the Faculty organizes the admission process for students. In the Announcement, the appropriate admission criteria for applicants are published aiming at finding suitable candidates.

Enrolled students are using Electronic Management System for Students (SEMS) with standard features documented on the Web page. When students receive new credits, they are informed by email. Furthermore, the system offers the possibility to get in contact with the professors.

Currently, there are 382 students enrolled in the Bachelor's program and 21 students enrolled in the Master's program.

There is no adequate check for plagiarism in submitted works or final papers yet. The *Center for Teaching Excellence* of the UP has taken the initiative in dealing with copyrights and plagiarism. Currently, there is a Web page that gives a curated link of resources and explains basic concepts. There the students and teachers are advised to use *Plagiarism Checker by Grammarly*. The University should establish its official plagiarism detection system and define and publish antiplagiarism measures.

All rights and obligations of students are publicly available in the Statute of the UP and internal documents, including regulations for students' transfer between higher education institutions, faculties, and study programs.

Students were aware of the existence of students organizations but were unaware of their activities. Some students were not aware of a document that stipulates students' rights and obligations.

In the meetings with students and alumni, it was evident that both groups consist of highly motivated professionally capable individuals, satisfied with the Program and their workplace, and eager to suggest improvements.



- Outgoing student mobility is faced with obstacles – students are not encouraged to participate, received no help from official bodies in finding placement within the Erasmus program, and believe there are problems in having credits recognized.
- Mentoring system would be good.
- Very good students should have an opportunity to take more advanced courses (honors).
- Students can use their professors’ networks to obtain placements for future studies.
- Library should have more contemporary books.
- There should be more emphasis on seminars – students should have more opportunities to present what they learned.
- Each course should also give an overview of the current state of knowledge in the respective domain.
- There is a need for better horizontal and vertical mobility. The program is suited for just one job – teaching in either school or university.
- There is a strong need for more courses related to artificial intelligence and programming since more and more students work with Big Data. There is too much pure mathematic content in the program.
- There should be more emphasis on teaching students how to learn mathematics, not just reading and memorizing.

| <i>Standard</i>   | <i>Compliance</i> |           |
|---|-------------------|-----------|
|   | <i>Yes</i>        | <i>No</i> |
| <b>Standard 5.1.</b> There is a clear and formally adopted admission procedure at the institutional level that the study program respects when organizing students’ recruitment. Admission requirements are consistently and fairly applied for all students. | X                 |           |
| <b>Standard 5.2.</b> All students enrolled in the study program possess a high school graduation diploma or another equivalent document of study, according to MEST requirements.   | X                 |           |
| <b>Standard 5.3.</b> The study groups are dimensioned so as to ensure an effective and interactive teaching and learning process.   | X                 |           |



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| <b>Standard 5.4.</b> Feedback to students on their performance and results of assessments is given promptly and accompanied by mechanisms for assistance if needed.  | X |   |
| <b>Standard 5.5.</b> The results obtained by the students throughout the study cycles are certified by the academic record.  | X |   |
| <b>Standard 5.6.</b> Flexible treatment of students in special situations is ensured with respect to deadlines and formal requirements in the program and to all examinations.   | X |   |
| <b>Standard 5.7.</b> Records of student completion rates are kept for all courses and for the program as a whole and included among quality indicators.  | X |   |
| <b>Standard 5.8.</b> Effective procedures are being used to ensure that work submitted by students is original.  |   | X |
| <b>Standard 5.9.</b> Students' rights and obligations are made publicly available, promoted to all those concerned, and enforced equitably; these will include the right to academic appeals.                            | X |   |
| <b>Standard 5.10.</b> The students' transfer between higher education institutions, faculties, and study programs is clearly regulated in internal documents.  | X |   |
| <b>Standard 5.11.</b> 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. | X |   |

**Compliance level:** Substantially compliant

**ET recommendations:**

1. Introduce university-wide antiplagiarism measures.
2. Introduce university-wide support for mobility and make sure faculties and students are aware of existing agreements.
3. Define examination rules, in particular, remove the obligation to take repeatedly parts of exams that have already been passed.





4. Systematically increase the number of textbooks in Albanian.
5. Make sure that the existing QA system functions properly to ensure timely consideration of students' comments.
6. Establish Web pages of the (University and Faculty) libraries with displayed working hours and fundus.
7. Increase the number of recent books in the library.
8. Introduce mentoring system.
9. Enable good students to take honors classes.
10. In the courses, give the current state of the domain, enable students to present their progress through seminars, and teach them how to learn mathematics.
11. Improve horizontal and vertical mobility.
12. Introduce more courses dealing with theoretical and practical aspects of artificial intelligence and Big Data handling and analysis.
13. Increase the number of students in the Master's program.
14. Descriptions of support services (e.g. regarding the study program, student counseling in case of emotional, financial, or family-related problems, career guidance, international matters, legal advice, availability of scholarships) should be publicly available on the university website in order for potential students to have all information before and after enrolment.
15. As a previous report stated, the ET stands by the recommendation that QA policies and procedures should also address the quality of the consultations and the possibility of offering complementary support for students to cover their learning or educational gaps. It seems there is a need for such support systems to be put in place in order to improve the success rates during the dedicated time of the program.

## 2.6. Research

According to Article 175 of the Statute of the UP, Full Professor must have “a significant number of monographs, university textbooks, and publications in international scientific or artistic journals, of which at least 5 key publications in international journals as first, or corresponding author, active participation in national and international conferences, and mentorship in Master and Doctoral studies”. According to Article 176 of the Statute, Associated Professor must “have a selected number of monographs and publications in international scientific or artistic journals, with at least 3 key articles in international journals as the first or corresponding author, and have demonstrated scholarly work, and mastery of the subject in the respective field.”



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Professors fulfill conditions regarding publications. Part of the teaching staff also fulfills the requirement of Standard 6.7 to publish on average one paper per year. However, the descriptive criteria above do not specify the quality of journals. Senior researchers do indeed publish in high-quality journals and have a respectable scientific output, but many publications appear in low to medium-quality journals. The university now gives incentives to increase the quality of published research by financially supporting travel to conferences, as well as the publication of high-quality scientific papers.

Obviously, Full Professors cannot fulfill mentorship conditions within the Program nor within the University since there is no Doctoral program in Mathematics.

In SER there is no definition of research objectives for the Program. In the additional documentation, it is stated that “Professors are mainly engaged in research, individually or in cooperation with other professors since it is a part of their promotion in University, and they have to do at least 3 scientific papers for associate professors or 5 papers for full professors, but we also have very active professors that put targets for themselves to do more papers (at least one per year)”. These requirements are very low. For example, professors at the University of Zagreb, need to publish 3, 9, and 15 papers, respectively. The good thing is that many of the professors of the Department publish more than the required minimum.

The SER Chapter 2.6 Research provides only information on the existence of the Mathematics Seminar (no data on the frequency of lectures, attendance, etc), a list of papers and conferences written and attended by the teaching staff, respectively, and very short SWAT analysis. There is no information on projects and international cooperation. In SWOT analysis, the only Weakness listed is insufficient funding for attending conferences, and the only Challenge listed is obtaining such funding. The list of papers should include the Impact factor of the Quartile of the journals and should be published on the Web pages. The list of projects and collaborations should also be published, moreover, since a large number of staff have completed their studies as a whole or as a part of them outside of Kosovo and have brought their international experiences in teaching, learning and research.

The research performed by the teaching staff is not always related to Program and no attempt to formally link the two has been made. There is evidence of students being included in the research and publishing papers with professors.

Professors of the Department are managing two scientific journals.

The Faculty has signed an Agreement of Cooperation with one company.

The research is being fostered by the University of Prishtina subscribing to international journal databases, so the researchers and students have direct and prompt access to a large number of current scientific publications.

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Policies establishing intellectual property rights and clear procedures set out for the commercialization of ideas have yet to be developed. In the additional documentation, the only reference is made to Article 47 of SUP which states: “The development of policy for the protection of the intellectual property of the University and of its commercial utilization.”

| <i>Standard</i>   | <b>Compliance</b> |           |
|---|-------------------|-----------|
|   | <b>Yes</b>        | <b>No</b> |
| <b>Standard 6.1.</b> The study program has defined scientific/applied research objectives (on its own or as part of a research center 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         |
| <b>Standard 6.2.</b> Expectations for teaching staff involved in research and scholarly activities are clearly specified, and performance in relation to these expectations is considered in staff evaluation and promotion criteria.   | X                 |           |
| <b>Standard 6.3.</b> 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.   | X                 |           |
| <b>Standard 6.4.</b> The academic staff has a proven track record of research results on the same topics as their teaching activity.  | X                 |           |
| <b>Standard 6.5.</b> The academic and research staff publish their work in specialty 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                 |           |



|   |   |   |
|---|---|---|
| <b>Standard 6.6.</b> Research is validated through scientific and applied research publications, artistic products, technological transfer through consultancy centers, scientific parks, and other structures for validation.                        | X |   |
| <b>Standard 6.7.</b> 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.   | X |   |
| <b>Standard 6.8.</b> Academic and research staff publish under the name of the institution in Kosovo they are affiliated to as full-time staff.   | X |   |
| <b>Standard 6.8.</b> Academic staff is 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. | X |   |
| <b>Standard 6.9.</b> Policies are established for ownership of intellectual property and clear procedures are set out for the commercialization of ideas developed by staff and students.   |   | X |
| <b>Standard 6.10.</b> Students are engaged in research projects and other activities  | X |   |

**Compliance level:** Substantially compliant

**ET recommendations:**

1. Establish Doctoral Studies.
2. Increase international scientific collaboration, including incoming and outgoing mobility of researchers.
3. Increase requirements for advancement teaching staff.
4. Define research objectives for the Program.
5. In order to increase the scientific visibility of the program, publish data about research in Albanian and English on the Web: a list of papers with IF or Quartile information, a list of conferences attended by the research staff, list of international collaborations, list of projects, list of organized conferences, etc.
6. Formally link research done by the teaching staff to the Program.



7. Include more students in the research.
8. Establish policies for the protection of intellectual property and its commercialization or use university-wide policies once they are established.
9. Increase access through subscriptions to Albanian and foreign publications and periodicals.

## 2.7. Infrastructure and resources

Department of Mathematics has in use the area of 1388 m<sup>2</sup>. The infrastructure is described in the following table from SER:

| Infrastructure                 |   |
|--------------------------------|---|
| Classrooms                     | 4 (390 m <sup>2</sup> )                         |
| Teachers Cabinets              | 11 (200 m <sup>2</sup> )                        |
| Laboratories                   | 3 (150 m <sup>2</sup> )                         |
| Libraries                      | 1 (60 m <sup>2</sup> )                          |
| Information Technology         | 81 Computers, Laptops, 5 Projectors, WiFi, etc. |
| Office of Academic Personel    | 1 (30 m <sup>2</sup> )                          |
| Administration and Joint Space | 1 (528 m <sup>2</sup> )                         |

The Dean's office and administration have 11 computers, 11 printers, and a photocopying machine. Classrooms have recently been electronic monitoring system which is also used to register attendance. The SER contains a short financial plan.

In the library of the Department of Mathematics, there are 15 seats in the reading room with computer support, and additional 14 seats are in group workrooms. The library has 1500 – 2000 books, while for specific needs of the Program there are about 1000 books. The library has only a physical register of relevant books for the Program, and the electronic register is planned. Opinions on the quality of the library differ – while teaching staff agrees that the library is good, students think that the library is small and not good, the opening hours are shorter than needed, and they rarely use it.

According to the teaching staff and ADRP, the software used in the Program is Open Source and free of charge.

The first floor of the premises is adapted to the needs of persons with disabilities.

The new building of the Faculty is planned.



| <i>Standard</i>   | <b>Compliance</b> |           |
|---|-------------------|-----------|
|   | <b>Yes</b>        | <b>No</b> |
| <b>Standard 7.1.</b> 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                 |           |
| <b>Standard 7.2.</b> 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 of three years.  | X                 |           |
| <b>Standard 7.3.</b> 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:<br>a) owned or rented spaces adequate for the educational process,<br>b) owned or rented laboratories, with the adequate equipment for all the compulsory disciplines within the curriculum, wherever the analytical syllabus includes such activities,<br>c) adequate software for the disciplines of the study included in the curriculum, with utilization license,<br>d) library equipped with reading rooms, group workrooms, and its own book stock according to the disciplines included in the curricula. | X                 |           |
| <b>Standard 7.4.</b> 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 specialty disciplines included in the curricula are carried out in laboratories equipped with IT equipment.  | X                 |           |



|   |   |  |
|---|---|--|
| <p><b>Standard 7.5.</b> The education institution’s libraries must ensure, for each of the study programs:</p> <p>a) a number of seats in the reading rooms corresponding to at least 10% of the total number of students in the study program,</p> <p>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,</p> <p>c) their own book stock from Albanian and foreign specialty literature, enough to cover the disciplines within the curricula, out of which at least 50% should represent book titles or specialty courses of recognized publishers, from the last 10 years,</p> <p>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,</p> <p>e) a sufficient number of subscriptions to Albanian and foreign publications and periodicals, according to the stated mission.</p> | X |  |
| <p><b>Standard 7.6.</b> The infrastructure and facilities dedicated to the implementation of the program is adapted to students with special needs</p>  | X |  |

**Compliance level:** Fully compliant

**ET recommendations:**

1. Establish Web pages of the (University and Faculty) libraries with displayed working hours and fundus.
2. Purchase new IT equipment both through University funding and through EU projects.
3. Adapt the rest of the space, infrastructure, and facilities to the needs of persons with disabilities.
4. Increase the acquisition of new scientific books.
5. Increase the opening hours of the library in order to give students the opportunity to use it more often.



### 3. OVERALL EVALUATION AND RECOMMENDATION OF THE ET

The evaluation process was well prepared by the KAA and runs smoothly. Online meetings were organized in a timely fashion with excellent Internet connections and ran without problems. It was a true pleasure to talk to Faculty management, the QA team, Professors and Assistants, students, graduates, and representatives of employers. Each group showed high enthusiasm, very high professionalism, and a desire for improvements in the Program, the University, and society.

The quality of the program is in general very good, producing graduates which are knowledgeable and skilled in all areas of the Program and highly employable, something which is rarely seen in the BSc program. Recommendations listed in Sections 2.1 – 2.7 above show that there is considerable work on improvement in various aspects to be done, but this is definitely within reach and competencies of the staff of the University, Faculty, and Department.

The compliance levels for all standards are summarized in the following table:

| Standard                                   | Compliance level        |
|--|-------------------------|
| 1. Mission, objectives, and administration | Substantially compliant |
| 2. Quality management                      | Substantially compliant |
| 3. Academic staff                          | Substantially compliant |
| 4. Educational process content             | Substantially compliant |
| 5. Students                                | Substantially compliant |
| 6. Research                                | Substantially compliant |
| 7. Infrastructure and resources            | Fully compliant         |
| <b>Overall compliance</b>                  | Substantially compliant |

In conclusion, the Expert Team considers that the study program *Bachelor of Science in Mathematics* offered by the *Faculty of Mathematics and Natural Sciences of the University of Prishtina “Hasan Prishtina”* is *Substantially Compliant* with the standards included in the *KAA Accreditation manual* and, therefore, recommends *accrediting* the study program for a duration of *3 years* with a number of *60* students to be enrolled in the program.





Republika e Kosovës  
Republika Kosova - Republic of Kosovo



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

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**Expert Team**

**Chair**

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(Signature)

Prof. dr. sc. Ivan Slapničar

March 29, 2022

**Member**

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(Signature)

Cristina Fit

March 29, 2022