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***UNIVERSITY OF PRISHTINA
“HASAN PRISHTINA”***

Bachelor (BSc) of Physics

PROGRAM ACCREDITATION

REPORT OF THE EXPERT TEAM

July 13th, 2022 Wiener Neustadt, Warszawa



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1. INTRODUCTION

1.1. Context

Date of site visit: June 17th, 2022

Expert Team (ET) members:

- *Prof. Dr. Herbert Störi*
- *Damian Michalik, MSc*

Coordinators from Kosovo Accreditation Agency (KAA):

- *Shkelzen Gerxhaliu, SO for Evaluation and Monitoring*
- *Flamur Abazaj, SO for Evaluation and Monitoring*

Sources of information for the Report:

- *Faculty of Mathematics and Natural Sciences Physics – BSc. Self Evaluation Report 2021*
- *Syllabuses*
- *CVs*
- *Kosovo Accreditation Agency Accreditation Manual 2021*
- *The Manual for External Evaluation of Higher Education Institutions, KAA 2021*
- *Faculty of Mathematics and Natural Sciences, Strategic Development Plan 2022 -2026 (draft)*
- *Online interviews with stakeholders (site visit)*
- *University of Prishtina Statues*
- *University of Prishtina Strategic Plan*
- *University of Prishtina website*



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Additional documentation:

- *Regulation on Quality Assurance*
- *Templates of questionnaires for different stakeholder groups*
- *List of partnership agreements*
- *Regulation for basic bachelor studies*
- *Regulation for master scientific studies*
- *List of trainings organised by the Centre for Excellence in Teaching of UP*
- *Video links for Department of Physics*
- *Statistical overview of students' enrollment and drop-out*
- *General summary of questionnaire results*
- *University of Prishtina annual report*
- *Accreditation Report Faculty of Mathematics and Natural Sciences University of Prishtina 2016*

Remarks:

- Some documents supplied were in Albanian language. As long as these were text documents, the ET could resort to Google Translate with good results. Some documents consisted however of scanned pages, which are not suitable for machine translation.
- In 2 cases information concerning staff hiring and infrastructure was used from the MSc SER.

Criteria used for institutional and program evaluations

- *Standards & performance indicators for external evaluation according to the Accreditation Manual of Kosovo Accreditation Agency, 2021*



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1.2. Site visit schedule

Site Visit Programme

Time	Meeting	Participants
09:00 – 09:45	Meeting with the management of the faculty where the programme is integrated	Dean Idriz Vehapi Vice deans Avni Berisha Kajtaz Bllaca Sefer Avdiaj
09:50 – 10:35	Meeting with quality assurance representatives and administrative staff	Besnik Loxha Ilir Mazreku Artan Alidema
10:40 – 11:40	Meeting with the heads of the study programme (BA)	Prof. asoc. Sefer Avdiaj Prof. asoc. Shukri Klinaku Prof. Dr. Skender Kabashi
11:45 – 12:40	Meeting with the heads of the study programme (MA)	Prof. ass. Fisnik Aliaj Prof. ass. Gazmend Nafezi
12:40 – 13:25	Lunch break (provided at the evaluation site)	
13:25 – 14:10	Meeting with teaching staff	Prof. Dr. Sadik Bekteshi (full-time professor) Prof. Dr. Naim Syla (full-time professor) MSc. Burim Kamishi, (full-time teaching ass.)



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		<p>Mas. Ardita Kurtishaj, (full-time teaching ass. Involved in both BSc and MSc study programs)</p> <p>MSc. Ibrahim Hameli, (full-time teaching ass. Involved in both BSc and MSc study programs)</p> <p>MSc. Zeqe Tolaj, (full-time teaching ass. Involved in both BSc and MSc study programs)</p> <p>Njomza Elezaj (full-time teaching ass.)</p>
14:15 – 15:00	Meeting with students	<p>Ilir Jusufi, Year 1 MSc student</p> <p>Rona Roka, Year 1 MSc student</p> <p>Kaltrina Mula-Aliaj, Year 2 MSc student</p> <p>Lyra Hoxha, Year 3 BSc student</p> <p>Rreze Qela, Year 2 BSc student</p> <p>Zgjim Rrustemi, Year 1 BSc student</p> <p>Inesë Basha, Year 1 BSc student</p>
15:05 – 15:50	Meeting with graduates	<p>Granite Shkodra</p> <p>Armend Dodaj, BSc. graduate student</p> <p>Yllka Kabashi, MSc. graduate student</p>
15:55 – 16:40	Meeting with employers of graduates and external stakeholders	<p>Mehmet Rashiti, Principal of School “17 Shkurti”, Lipjan</p> <p>Behar Raci, Specialist of Radio-oncology, Head of radiotherapy Department</p> <p>Remzije Kosumaj, Principal of School “Iliria” Prishtinë.</p> <p>Manushe Ramosaj, “Mehmet Akif”, Lipjan</p>
16:40 – 16:50	Internal meeting of KAA staff and experts	
16:50 – 17:00	Closing meeting with the management of the faculty and program	



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1.3. A brief overview of the institution under evaluation

The Faculty of Mathematics and Natural Sciences (FMNS) is an organisational unit of the University of Prishtina (UP). The faculty was founded in 1971 by the decision of the Kosovo Parliament (Official Journal of ASP of Kosovo no. 37/71). However, studies of natural sciences were commenced even in the 1960s within the scope of the Faculty of Philosophy. The study programme under evaluation, i.e., Physics is conducted as a bachelor (three-year studies) degree by FMNS. This study programme is the one of 9 bachelor-level programs offered by the department, last time reaccredited in 2016.

FMNS is governed by the Dean supported by Vice-Deans for teaching and student affairs, Vice-Dean for finance and infrastructure, Vice-Dean for quality and science affairs, and the Faculty Council. The latter is the principal policy-making body at the faculty level which also oversees other academic-related activities. From the point of study programme, the physics department is responsible for organising the whole academic process. Improvement of the study programme involves all stakeholders, the Advisory Board (members are industry representatives) and it is supervised by the Coordinator for Academic Development.

According to SER, 167 students are enrolled into the Physics programme. The study programme aims to prepare staff for teaching in lower secondary and upper secondary schools. Another objective of this programme is to prepare new highly qualified staff who are ready to engage in further studies of physics and other sciences in which in-depth knowledge of physics is required.

Until the academic year 2001/2002, the programme was almost standardised in content with the programs of similar faculties in the region. For the purpose of overall advancement of studies, raise in quality, and their efficiency, academic personnel of FMNS initiated changes of the content of study programmes, which began to be applied in the academic year 2001/2002. The programme aims to the achievement of necessary standards of studies in accordance with the model of studies based on the Bologna Treaty, with the structure of 6 semesters. Since then, several refreshments of programs have been undertaken, maintaining the alignment to the Bologna Treaty.



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2. PROGRAM EVALUATION

2.1. Mission, Objectives and Administration

The Faculty of Mathematics and Natural Sciences is aligned to the key strategic statements of the University of Prishtina. The bachelor study programme offered by the faculty fulfils the stated mission in Article 6 of UP statute. The curriculum was designed on the basis of a physics study programme in the University of Zagreb and in accordance with Kosovo Qualification Framework. According to site-visit discussions and SER, design and improvement of the programme was also made by industry representatives who actively participate in the Advisory Board. Alumni and students also perform a significant role of adjusting the programme content through questionnaires and informal discussions. Furthermore, the study programme is the only one offered in Kosovo, representing the first stage in higher-education of prospective physicists. After completing it, students may continue their studies in the master study program of physics (FMNS) or subject teaching in physics specialisation (Faculty of Education). As the sole programme in physics it serves the entire society of Kosovo. Relying on SER, an average of post-graduation employment rate in different sectors equals almost 100%, which reflects the high demand on the study programme graduates.

Addressed to the Physics curriculum, learning outcomes were based on good practices from the European Higher Education Area (EHEA). ET was informed that academic staff revise and keep them updated to actual trends. The study programme, as it was initially presented in SER, is fully in accordance with the Bologna Declaration and EHEA doctrine, intentions and objectives.

Successful completion of the programme allows to achieve relevant knowledge, understanding, skills and abilities important for physics teachers as well as in different fields such as: industrial laboratories, medical laboratories, in construction and electric engineering. Moreover, the programme is centred around three scientific fields, radioactivity and radiation, condensed matter physics and vacuum metrology. Provided courses are interactive lectures, tutorials, team and individual practical projects. Adopted problem based-learning is diversified with assignments, reading and reporting of relevant state of the art articles and publications. Moreover, e-learning tools improve the efficiency of teaching and learning process. Internships are not obligatory; however, students can participate in them in their spare time and, additionally, they can be supported by the career office. The Physics curriculum is composed of 180 ECTS points, evenly separated along a 3-year programme (6 semesters). The Dean and Vice Dean for teaching and student affairs are responsible for the organisation, harmonisation and management of teaching courses at the faculty. Details about the study programme and its



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plan can be found in the course overview available at the UP website. The university also implemented limits of students per lectures and practical courses. Furthermore, some internal regulations were also implemented which are collected in the regulation for basic bachelor studies. ET has not found internal regulations available on the English version of UP website, which is the perfect place to publish such regulations, even if they are shared internally. Furthermore, in the academic bodies involvement of students is visible so the study programme is adequately adjusted to students' needs.

While the ET is satisfied with the didactic concept, no evidence of an *overarching research concept* was found. There is definitely good research going on, but a concept guiding research on a more general level, ideally defining core areas of scientific competence and their development into the future should be established. Ideally, this would have interdisciplinary aspects. (See the recommendation 1 for chapter 2.6 research)

During the site visit ET has learned that ethical issues have not observed and possible cases are solved informally. Nevertheless, it is an important task of university and its units to prophylactically protect the academic community against unethical behaviours so even if formal guidelines were introduced in 2013 (code of ethics of academic staff at the UP), the university representatives should consider an update of accepted rules almost 10 years ago. Since 2013 European higher education institutions have improved a lot in this direction.

The Faculty Council is the main academic body responsible for implementing internal policies and overseeing academic performance of the faculty. It is also supported by the Study Commission which is responsible for drafting new study programs and approving and reviewing existing study programs. The aforementioned bodies meet regularly, although, not all policies, regulations and terms of reference and statements are reviewed at least once every two years according to revised documentation. ET understands that not all documents demand updates as frequently, nevertheless, it is a good practice to decide which of them should be aligned to the current trends.

Moreover, internal stakeholders highlighted that even administrative staff are very friendly and helpful, administration services could work in a more organised way at the faculty. Therefore, ET recommends investigating actual administration procedures and simplifying them according to stakeholders' demands.



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

Compliance level: Substantially compliant

ET recommendations:

- 1. Update of the code of conduct considering formal protection mechanisms against plagiarism at the faculty level.*



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- 2. Point out documents which should be revised each 2 years to keep them up to the current trends.*
- 3. In-depth investigation and improvement of administration services available at the faculty.*

2.2. Quality Management

The faculty environment favours stakeholders' commitment to the internal quality assurance system. On the one hand, both students and academic staff freely share doubts within the community, on the other hand, they are not entirely convinced about the importance and objectives set for quality assurance mechanisms. Formally, the quality management system of FMNS is a part of the university-wide system, explained in the regulation on quality assurance and evaluation at UP and the Statute. From the top it is managed by the Vice-Rector for Quality Assurance supported by the officer from the office for academic development and the Central Quality Assurance Committee. From the faculty side the head of the Study Commission is responsible for introducing respective quality assurance decisions.

The ongoing feedback is collected from staff, students, alumni (via questionnaires) and external stakeholders, including external examiners and strategic partners. Results from surveys are used for improvements of the study programme and its components, and are passed to the Central Quality Assurance Committee. Even the head of the Study Commission according to the Statute has to publish 10% of best annual evaluation results (UP Statutes, Art. 217 p. 3) and discuss the results with the teachers ranked within the lowest 10% of the annual students' evaluation results (Art. 217 p. 4) the faculty society has not noticed these activities. Therefore, ET recommends to ensure visible and consistent feedback after each survey, e.g., publishing the statistical overview (without personal information) or internal quality assurance studies on the faculty website. The closing of the feedback loop should also improve the understanding of the introduced quality assurance system amongst students and teachers.

According to SER and the site visit ET has learned that for the learning outcomes and learning materials update teachers are responsible, however this is not formally regulated and therefore cannot be required by the authorities. The faculty representatives should specify periodicity of revisions and the way how learning outcomes as well as learning materials are revised.

Recently, the faculty representatives work on the strategic development plan 2022-2026 which is focused on the following areas; teaching and learning, development of new study programmes, development of research capacities, infrastructure and collaboration with



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community/application of knowledge. ET would commend the efforts and emphasise that this document could translate into further important development of the faculty. Moreover, considering the decreasing number of students interested in the study programme each year, it seems a proper idea to add an international aspect to the plan, in particular in co-operation with Albanian-speaking countries.

Introduced formally and informally quality assurance tools include investigation of all important indicators for stakeholders. However, the evaluation of the study programme, which should be done at least once every 5 years, could be too rare to have a proper impact. From the quality assurance point of view, it does not have to be a complex investigation but focused on weaknesses and strengths so more frequent evaluation could bring many benefits to dynamically solve issues and find good practices which have a chance to transfer them to other faculties. It is also important to highlight that the regulation on quality assurance has not changed since 2016 which raises doubts about regular evaluation and improvement of quality assurance arrangements.

As an additional recommendation the ET considers appreciation of academic staff efforts in the form of an award. Additional motivation in teaching, scientific or administrative activity for top Faculty staff can have a positive impact on their performance.



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



Standard 2.8. The institution ensures that reports on the overall quality of the program are prepared periodically (eg. every three years) for consideration within the institution indicating its strengths and weaknesses.	X	
Standard 2.9. The quality assurance arrangements for the program are themselves regularly evaluated and improved.		X

Compliance level: Substantially compliant

ET recommendations:

1. *Prepare and publish a quality assurance manual for the faculty.*
2. *Consider publishing the statistical overview based on questionnaires without personal data or internal quality assurance studies on the faculty website.*
3. *Specify periodicity and the way how learning outcomes as well as learning materials are revised.*
4. *Review and update the regulations on quality assurance.*
5. *Introduce additional motivation mechanisms for appreciation of academic staff efforts.*

2.3. Academic Staff

There are 11 full-time teachers in the physics department listed in table 1 on page 15 of the SER. These cover both bachelor and master courses. Tables 3, 4 and 5 on pages 15 and 16 mention 12 full time teachers and 3 part time teachers which are not listed. Mathematics courses are taught by members of the mathematics department, the English course by a member of the philology department. This is in line with regulations on teaching load, but in practical terms the load is considered quite high. According to discussions during the site visit, academic teachers occupy only one full time position, which is in line with the regulations. Teachers retire at the age of 65.



Hiring of new staff is performed as needed and, according to the MSc SER, a rigorous procedure, guaranteeing decisions to hire the most suitable candidate is used; the final decision is taken by the senate of the university. The same holds for the advancement of existing academic staff. In general, there is a lack of PhD level candidates in Kosovo. It is also difficult to hire foreigners. The preferred solution for this problem is to encourage local people to perform PhD studies elsewhere in Europe, partially using the existing network of academic co-operations.

Given the number of full-time staff and the fact that most members of the staff holds an advanced degree, courses are taught by highly qualified staff. According to the SER and discussion during the site visit, teachers improve their lectures continuously. There is also support from the Centre for Excellence in Teaching. The Centre for Excellence in Teaching offers a number of trainings, including among others preparation of curricula and syllabi and aspects of on-line and hybrid teaching.

Teachers are available for consultations, also informally, and engage in a variety of committees.

There are regular evaluations of courses via questionnaires, but there was no mention of self-evaluation of personal performance or evaluations by peers and superiors. Evaluation results seem to be available internally.

Standard	Compliance	
	Yes	No
Standard 3.1. Candidates for employment are provided with full position descriptions and conditions of employment. To be presented in tabular form data about full time (FT) and part time (PT) academic/ artistic staff, such as: name, qualification, academic title, duration of official (valid) contract, workload for teaching, exams, consulting, administrative activities, research, etc. for the study program under evaluation.	X	



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Standard 3.2. The teaching staff must comply with the legal requirements concerning the occupation of teaching positions included in the Administrative instruction on Accreditation.	X	
Standard 3.3. Academic staff do not cover, within an academic year, more than two teaching positions (one full-time, one part-time), regardless of the educational institution where they carry out their activity.	X	
Standard 3.4. At least 50% of the academic staff in the study program are full time employees, and account for at least 50% of the classes of the study program.	X	
Standard 3.5. For each student group (defined by the statute of the institution) and for every 60 ECTS credits in the study program, the institution has employed at least one full time staff with PhD title or equivalent title in the case of artistic/applied science institutions.	X	
Standard 3.6. Opportunities are provided for additional professional development of teaching staff, with special assistance given to any who are facing difficulties.	X	
Standard 3.7. The responsibilities of all teaching staff, especially full-time, include the engagement in the academic community, availability for consultations with students and community service.	X	
Standard 3.8. Academic staff evaluation is conducted regularly at least through self evaluation, students, peer and superiors' evaluations, and occurs on a formal basis at least once each year. The results of the evaluation are made publicly available.		X
Standard 3.9. Strategies for quality enhancement include improving the teaching strategies and quality of learning materials.	X	



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Standard 3.10. Teachers retired at age limit or for other reasons lose the status of full-time teachers and are considered part-time teachers.	X	
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Compliance level: Fully compliant

ET recommendations:

1. *Even if the formal limits of teaching load are not exceeded, we suggest hiring additional teaching staff, possibly also supported by teaching assistants, i.e., students hired part time to assist with laboratories, calculation exercises, etc. Reducing the teaching load of professors will also have a beneficial effect on research.*
2. *The system of evaluation should be expanded beyond questionnaires and include self-evaluation and evaluation by peers and/or the head of study program.*

2.4. Educational Process Content

The bachelor’s program evaluated conforms to European standards, which is mainly assured by comparing the curriculum to other European universities. Presently this is mainly the university of Zagreb. In the future the university of Ljubljana could be the main reference. Switching is however difficult due to restrictions connected to the evaluation process. Qualification objectives, skills and employment opportunities are discussed in the self-evaluation report (SER) in an adequate manner.

The program offers compulsory and elective courses. Compulsory courses contain all the usual topics expected from a bachelor program in physics. Basic courses are followed by advanced courses, e.g., Electrodynamics follows Physics III. Courses regularly consist of lecture, calculation exercises, laboratory work for experimental subjects, self-study assignments and consultations. For all courses analytical syllabi are available, specifying among others also the methods of assessment. Teaching strategies are suitable for various subjects and are well documented. The same hold for assessment. The flexibility for different student groups is difficult to assess, but there have been no negative comments by students. There was also no mention of complaints concerning student assessment. The partnership and cordial relation



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between students and teaching staff is evident. This is in line with expectations for a program with relatively few students. Mechanisms of complaint are implemented, but rarely used.

Internships are not required, but students like to have them. There are a number of agreements with outside institutions in place to facilitate internships.

There is a relatively small number of elective courses and students would like to see more elective courses to have more choice. This is however difficult to implement within the physics department of FNMS due to the small number of academic teachers and the small enrolment on the side of students. As students select their electives in October, the enrolment in individual electives cannot be predicted. A possible solution would be external co-operation. This could be within the faculty or the university of Prishtina. An elective course could be shared with e.g., chemistry, mechanical engineering or even medicine. Essentially, students could enrol in elective courses taught by other departments or faculties. The effect could be a widening of scope on the side of students. An even more radical suggestion came up during the site visit: foreign professors could teach electives via the internet. Such a course, preferably taught in English, could even be shared with students from other universities. According to what we have experienced during the site visit, the command of English among the students is easily sufficient to permit this. This is also true for the younger part of the teaching staff.

There are clearly administrative and possibly regulatory hurdles to do this, but these can be overcome. Ultimately, such an arrangement could enhance the attractiveness of a physics program taught by a small department for a small number of students.

As most universities, UP is focussed on teaching in presence, i.e., students and teachers in a classroom. There are notable exceptions like the Open University in Britain. During the COVID-19 pandemic however on-line teaching and distance learning have become widespread. At UP on-line teaching has been established using Google meet or Google classroom and the experience was quite positive. Especially for master's courses, on-line teaching is going to stay, as it makes life easier for working students, possibly based outside Prishtina. There is a focus on presence teaching on the side of the university administration, but this position should be revisited.



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Recent improvements of the program include increased laboratory exercise time and more teaching hours in mathematics. A course on Mathematical Methods in Physics is elective.

According to the students, there is room for improvement of the quality of teaching. This is plausible and partially reflected in the evaluation of student questionnaires. According to our experience questionnaire-based evaluations are not suitable to fine-tune courses. The questionnaires do however flag serious problems, e.g. the quality of learning materials or the availability for consultations. There are no formal methods in place to assess the standards of student assessment and their consistency across time and different subjects.

There were some specific wishes/criticisms voiced during the site visit:

- The Computer Science course is too technical. It would be better to focus on programming.
- Mathematics and Physics Courses need to be more tightly synchronised. Sometimes mathematical concepts and methods are used in physics before they are covered in mathematics. Remark by the ET: This is a perennial problem also observed elsewhere, as mathematics and physics teachers have their own plan on how to arrange topics in their syllabus.
- High level lab classes would be desirable according to the alumni. Remark by the ET: The question to be answered here is the interface between lab classes and involvement in experimental research work.
- More internships would be desirable.



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Standard	Compliance	
	Yes	No
Standard 4.1. The study program is modelled on qualification objectives. These include subject-related and interdisciplinary aspects as well as the acquisition of disciplinary, methodological and generic skills and competencies. The aspects refer especially to academic or artistic competencies, to the capability of taking up adequate employment, contributing to the civil society and of developing the students' personality.	X	
Standard 4.2. The study program complies with the National Qualifications Framework and the Framework for Qualifications of the European Higher Education Area. The individual components of the program are combined in a way to best achieve the specified qualification objectives and provide for adequate forms of teaching and learning.	X	
Standard 4.3. The disciplines within the curriculum are provided in a logical flow and meet the definition and precise determination of the general and specific competencies, as well as the compatibility with the study programs and curricula delivered in the EHEA. To list at least 7 learning outcomes for the study program under evaluation.	X	
Standard 4.4. The disciplines within the curriculum have analytical syllabuses which comprise at least the following: the discipline's objectives, the basic thematic content, learning outcomes, the distribution of classes, seminars and applicative activities, students' assessment system, the minimal bibliography, etc. The full course description/ syllabuses of each subject/ module should be attached only in electronic form to the self-assessment report for the study program under evaluation	X	



Standard 4.5. If the language of instruction is <u>other than Albanian</u> , actions are taken to ensure that language skills of both students and academic staff are adequate for instruction in that language when students begin their studies. This may be done through language training prior to the commencement of the program.	-	-
Standard 4.6. The student-teacher relationship is a partnership in which each assumes the responsibility of reaching the learning outcomes. Learning outcomes are explained and discussed with students from the perspective of their relevance to the students' development.	X	
Standard 4.7. Teaching strategies are fit for the different types of learning outcomes programs are intended to develop. Strategies of teaching and assessment set out in program and course specifications are followed with flexibility to meet the needs of different groups of students.	X	
Standard 4.8. Student assessment mechanisms are conducted fairly and objectively, are appropriate for the different forms of learning sought and are clearly communicated to students at the beginning of courses.	X	
Standard 4.9. Appropriate, valid and reliable mechanisms are used for verifying standards of student achievement. The standard of work required for different grades is consistent over time, comparable in courses offered within a program, and in comparison with other study programs at highly regarded institutions.		X
Standard 4.10. Policies and procedures include actions to be taken in to dealing with situations where standards of student achievement are inadequate or inconsistently assessed.		X



<p>Standard 4.11. If the study program includes practice stages, the intended student learning outcomes are clearly specified and effective processes are followed to ensure that those learning outcomes and the strategies to develop that learning are understood by students. The practice stages are allocated ETCS credits and the work of the students at the practical training organisations is monitored through activity reports; students during practice stages have assigned tutors among the academic staff in the study program.</p>	-	..
<p>Standard 4.12. In order to facilitate the practice stages, the higher education institution signs cooperation agreements, contracts or other documents with institutions/organisations/practical training units.</p>	X	

Compliance level: Substantially compliant

ET recommendations:

1. *On-line and hybrid teaching should be part of the regularly used teaching methods. This could be used to add courses taught by professors at other universities.*
2. *The selection of elective courses offered should be expanded, at least partially by cooperating with other departments, faculties or universities. This could also contribute to interdisciplinary aspects*
3. *Standards of student achievement, defining acquired knowledge, understanding and skills on a more specific level, both for the whole program and individual courses should be introduced. This is a notoriously difficult process, but it should be started.*
4. *Student opinion beyond questionnaires should be considered in updating and improving syllabi. See e.g., the suggestions listed above.*



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2.5. Students

Implemented by the Faculty, admission procedures are regulated by the Statute of UP with the Regulation for Bachelor Studies. The call for student enrolment in the new academic year has 80 slots. Candidates are informed through the call about requirements aligned with MEST, necessary documents and application procedure. The registration may be made remotely through the UP website. Prospective students of the programme have to complete their upper secondary education and pass the national Matura examination. Candidates are treated equally throughout the admission process.

Academic courses provided by FMNS are adequately dimensioned in the case of student numbers. At the Faculty a certain limitations of student groups sizes are introduced, i.e., the maximum number of students per lecture and seminar is 80, per laboratory exercises 6-12 students and a group of maximum 25 students in numerical exercises. Declared numbers favours an effective and interactive teaching and learning process. Teaching staff also use different teaching methods to involve all students in the same proactive manner. Online didactical tools introduced during the Covid-19 pandemic were recognized as highly supportive so are still in use within the learning process.

The review session with students confirmed that all important aspects of teaching and learning (according to syllabuses) are presented during the first class. Feedback related to their performance and results of assessments are also given promptly with further guidance, while necessary additional assistance is available, i.e. on student-teacher consultations. Students of the study programme also admitted that exam results are passed to them within a reasonable time, and they can consult their outcomes with teachers. Students have a possibility to receive a scholarship on their learning performance. All students with grades above 8 are allowed to apply for this additional financial support.

Students with disabilities can count on flexible support and the disability assistance at UP. The university aims to help achieve educational goals for students with physical disabilities, learning disabilities, persistent illness or short-term illness. Important role in the support also plays the academic staff who assist students with disabilities in fulfilling their academic



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potential. With all available support all students should have equal chances in achieving learning outcomes but the ET has not found information on available support of students with disabilities so it is highly recommended to publish such information with relevant regulations on the website.

UP collects and analyses the pass rate and grades in SEMS. According to the site visit, documentation related to student examination is kept indefinitely and colloquium sheets are stored for at least three years. The Sub-Committee on Quality Assurance considers student assessment and progression as indicators to improve procedures at the faculty. Moreover, students can share their opinions through surveys or direct conversation with the faculty authorities. On the one hand, the quality assurance procedures allow ongoing monitoring of the study programme and gauge the effectiveness of programme assessment mechanisms. On the other hand, students do not entirely understand how the process recognizes their learning performance or opinion. Therefore, ET suggests creating a possibility to explain the importance of quality assurance in the form of instructions or a special event devoted to internal quality assurance.

During site-visit sessions, ET understood that the plagiarism system does not support the Albanian language and supervisors are burdened by unethical behaviour detection. To recognize plagiarism is not an easy task, it is even more complicated to do so in natural sciences. Taking into account these arguments ET would like to suggest rethinking how the faculty can prevent and penalise unethical acts.

According to study programme students' opinions, students' rights and obligations are adequately articulated by the faculty. They are publicly available in the student handbook and contain the important right to appeal. Students are also aware of possible transfer between higher education institutions, faculties and study programmes. All regulations are internally available in a form of documentation for students.

The faculty has not established an alumni network and the alumni website is blank, therefore ET recommends to rethink and prepare a platform conducive to the creation of professional relations between them and the university.



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Standard	Compliance	
	Yes	No
Standard 5.1. There is a clear and formally adopted admission procedure at institutional level that the study program respects when organising students' recruitment. Admission requirements are consistently and fairly applied for all students.	X	
Standard 5.2. All students enrolled in the study program possess a high school graduation diploma or other equivalent document of study, according to MEST requirements.	X	
Standard 5.3. The study groups are dimensioned so as to ensure an effective and interactive teaching and learning process.	X	
Standard 5.4. Feedback to students on their performance and results of assessments is given promptly and accompanied by mechanisms for assistance if needed.	X	
Standard 5.5. The results obtained by the students throughout the study cycles are certified by the academic record.	X	
Standard 5.6. Flexible treatment of students in special situations is ensured with respect to deadlines and formal requirements in the program and to all examinations.	X	
Standard 5.7. Records of student completion rates are kept for all courses and for the program as a whole and included among quality indicators.	X	
Standard 5.8. Effective procedures are being used to ensure that work submitted by students is original.	X	



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Standard 5.9. Students' rights and obligations are made publicly available, promoted to all those concerned and enforced equitably; these will include the right to academic appeals.	X	
Standard 5.10. The students' transfer between higher education institutions, faculties and study programs is clearly regulated in formal internal documents.	X	
Standard 5.11. Academic staff is available at sufficient scheduled times for consultation and advice to students. Adequate tutorial assistance is provided to ensure understanding and ability to apply learning.	X	

Compliance level: Fully compliant

ET recommendations:

- 1. Publish information on the UP website about support available for students with disabilities.*
- 2. Create an alumni network to improve connections between former students and the university.*



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2.6. Research

There is substantial research activity in radioactivity and radiation, condensed matter physics, vacuum metrology and special relativity. Research laboratories and equipment for the experimental lines of research are available and also permit to involve students, mostly at master's level, to participate in experimental research. The department also has a computer server, which is also used by other departments of the faculty. A major upgrade of facilities is expected from the inauguration of the new FMNS building, expected in academic year 24/25. Research is largely performed in cooperation with foreign institutions and supported by project funding. Due to restrictions caused by the COVID-19 pandemic, travel has partially been blocked. Consequently, the progress of cooperative research projects suffered during recent years. This is also visible in the publication output.

On a more general level, the question needs to be asked, how many different fields of research are appropriate, given the relatively small number of academic staff members. A strategic research program, defining focus areas of research, would be helpful. This could in principle be used to hire academic staff with a research interest in those areas. In reality however, the number of applicants for academic positions is rather limited. On the other hand, a certain breadth of the research program is needed to enable teaching guided by research, which is a defining element of universities. Nevertheless, teachers have to teach subjects outside their research experience.

A previous evaluation suggested to focus research to establish an internationally competitive research group. This is deemed impossible due to the wide spread of competencies of the academic staff.

The university library offers access to a number of scientific databases and journals. There is also access via the partners of scientific co-operations.

There is a "Regulation on Research and Publication", which is in Albanian language, but is said to define norms of quality of publications. Staff aims at publishing in Journals indexed in Web of Science and Scopus. There are clear regulations concerning publication activity in staff promotion rules. Publications and conference visits are part of staff evaluation. Academic staff



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is quite active in publishing original research. More than half of the staff listed meets the requirement of at least 1 scientific publication per year over the last three years or the three years to 2020 according to SCOPUS. Publications in 2021 and 2022 were a bit lower due to COVID-19 related restrictions impacting co-operative research. There are however staff members with no publications during recent years. From January 2021, the university is paying for every published paper indexed in web of science and Scopus according the Regulation for the financing of research.

Ultimately, this is a small research program, successfully aiming at quantity and quality publications. It is integrated into an international network of co-operation. Commercialisation of results is not or not yet an issue. The same holds for intellectual property rights.

Standard	Compliance	
	Yes	No
Standard 6.1. The study program has defined scientific/applied research objectives (on its own or as part of a research centre or interdisciplinary program), which are also reflected in the research development plan of the institution; sufficient financial, logistic and human resources are allocated for achieving the proposed research objectives.		X
Standard 6.2. Expectations for teaching staff involvement in research and scholarly activities are clearly specified, and performance in relation to these expectations is considered in staff evaluation and promotion criteria.	X	
Standard 6.3. 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	



Standard 6.4. The academic staff has a proven track record of research results on the same topics as their teaching activity.	–	–
Standard 6.5. The academic and research staff publish their work in speciality magazines or publishing houses, scientific/applied/artistic products are presented at conferences, sessions, symposiums, seminars etc. and contracts, expertise, consultancy, conventions, etc. are provided to partners inside the country and/or abroad.	X	
Standard 6.6. Research is validated through: scientific and applied research publications, artistic products, technological transfer through consultancy centres, scientific parks and other structures for validation.	X	
Standard 6.7. 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
Standard 6.8. Academic and research staff publish under the name of the institution in Kosovo they are affiliated to as full-time staff.	X	
Standard 6.8.(1) Academic staff are encouraged to include in their teaching information about their research and scholarly activities that are relevant to courses they teach, together with other significant research developments in the field.	X	
Standard 6.9. Policies are established for ownership of intellectual property and clear procedures set out for commercialization of ideas developed by staff and students.	–	–
Standard 6.10. Students are engaged in research projects and other activities.	X	

Compliance level: Substantially compliant



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ET recommendations:

- 1. A strategic research program at the level of department, faculty and university should be developed. This should define areas of strength, ideally interdisciplinary. Some of those could include combinations of mathematics, natural science, engineering and medicine. The strategic research program could then guide future hirings and purchase of big equipment used by researchers from different fields (e.g., electron microscopy or computing)*
- 2. Publication activity should be boosted with a focus on at least - among other publications - a few publications in highly cited journals.*
- 3. Interdisciplinary cooperative research with scientists from other fields and companies should be considered.*

2.7. Infrastructure and Resources

The program is financed by the Republic of Kosovo via regular budgets, ensuring continuation at least in the foreseeable future. The public budget serves as a financial plan. According to the site visit, the budget of FMNS is approx. € 840.000/year. Given the number of study programs this is very modest.

Premises are owned by the University of Prishtina or the faculty FMNS. The same is true for equipment. There are research and teaching laboratories, supporting the main fields of research including student involvement as well as the practical parts of the curriculum. The library is modest, but sufficient.

The present facilities are only partially suitable for students with special needs. A new building for the FMNS is planned to be available in 2024. Existing deficiencies are expected to be cured when moving into the new building of FNMS.



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Quotes from the MSc. SER concerning suitability of facilities:

The number of students per group is organised so that all students in the group have their seats in lecture halls, seminar rooms and laboratories. Laboratories are equipped with computer equipment to support the teaching process.

Students of the Department of Physics use the premises of the University Library which is within the University campus. The UP Library offers access to many books in the field of physics, as well as to the digital platforms ScienceDirect, PhyOne, etc. There are also 3 small libraries in the FMNS where students can also read.

Regarding the textbooks for the study courses, it should be noted that UP has limited funds for the books for the courses offered, so the teaching staff tries to provide them or provide students with different sources of literature (online books, scientific journals and other materials from the internet).

All literature provided to students in the program is included in the syllabus of each subject. In most subjects the literature is in Albanian with additional literature in English.

Students receive licensed software, e.g., Microsoft office from the university. Python is largely used for programming tasks. Other programs available are MATLAB and LabView

There is a small number of academic teachers. Vacant teaching positions are filled by well-defined procedures. Quality assurance is regulated at the state and university level.

Ultimately, the resources available are very modest, but the staff is experienced to make do with limited resources. A lot of hope rests on the new building. Care needs however to be taken, that besides “brick and mortar” the budget will also be adapted for other items like equipment, library and staffing.



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



<p>Standard 7.5. The education institution's libraries must ensure, for each of the study programs:</p> <ul style="list-style-type: none"> a) a number of seats in the reading rooms corresponding to at least 10% of the total number of students in the study program; b) a number of seats in the group work rooms corresponding to at least 10% of the total number of students in the study program; c) their own book stock from Albanian and foreign speciality literature, enough to cover the disciplines within the curricula, out of which at least 50% should represent book titles or speciality courses of recognised publishers, from the last 10 years; d) a book stock within its own library with a sufficient number of books so as to cover the needs of all students in the cycle and year of study the respective discipline is provided for; e) a sufficient number of subscriptions to Albanian and foreign publications and periodicals, according to the stated mission. 	X	
<p>Standard 7.6. The infrastructure and facilities dedicated to the implementation of the program is adapted to students with special needs.</p>		X

Compliance level: Substantially compliant

ET recommendations:

1. *The on-going investment into a new building should be combined with additional investment in equipment and an expanded budget for staff, library and consumables.*



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3. FINAL RECOMMENDATION OF THE ET

This is a program comparable in content to programs at universities in other European countries.

The available resources, both in the area of academic staff and of equipment are modest, to say the least. An expansion of available resources should be aimed at, even if the ET is aware of the difficult situation in the Republic of Kosovo.

The new building of the faculty offers the chance for a fresh start. This should be used to make the program more attractive.

Standards of student achievement should be implemented over time.

Internal evaluation procedures, presently mainly based on questionnaires, should be expanded to verbal evaluations.

The major problem of the program is the small and declining enrollment. This should be investigated in depth. A potential way forward would be more interdisciplinarity including several interdisciplinary master's programs expanding the employment opportunities of alumni.

Considering the smaller number of interested students into the study programme each year, it seems a proper idea to attract international students, in particular from Albanian-speaking countries.

Compliance level: Substantially compliant

Recommended period of accreditation: Five years*

Student quota recommended: 80 students**

**The department will need 3 years from now to settle in the new building*

***80 students are presently beyond reach, but this was the quota before*



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