## **Final Report**

# **EVALUATION REPORT OF THE UNIVERSITY OF PRISHTINA**Faculty of Mechanical Engineering



## EXPERT COMMITTEE FOR EVALUATION OF THE UNIVERSITY OF PRISHTINA H. Grogger, T. Otto, A. Mehrle

in charge of Kosovo Accreditation Agency

Prishtina, June 2017

#### 1. Foreword

The evaluation of higher education and research institutions in the Kosovo academic community is now in a well established state. The implementation of quality assurances on a regular basis is an essential part of the Bologna process for higher education.

All three members of the experts committee do appreciate the high level of professionalism in the organization of the evaluation process by the Kosovo Accreditation Agency, especially of the Acting Director Furtuna Mehmeti, and the Officers for Evaluation and Monitoring, Mr. Fisnik Gashi and Mr. Elmi Kelmendi, who organized the visit and guided the whole evaluation process.

If on any matter related to this particular report, the need for special explanation or amendment is felt, the members of the Expert Committee are prepared for answers and explanations.

June 13th, 2017

On behalf the Expert Committee:

Prof. Dr. Herwig Grogger

Prof. Dr. Tauno Otto

Dr. Andreas Mehrle

## 2. Members of the Expert Committee

Pursuant to official papers regarding Scientific Activity and Higher Education as well as the Ordinance on Measures and Criteria for the Evaluation of Quality and Efficiency of Higher Education Institutions, the National Council for Higher Education of Kosovo appointed an Expert Committee in charge of quality and efficiency evaluation of the University of Prishtina, Faculty of Mechanical Engineering as follows:

#### Prof. Dr. Herwig Grogger - professor at the University of Applied Sciences Joanneum,

Alte Poststrasse 149, A-8020 Graz, Austria

Tel..:+43-(0)316-5453-8457, Fax: +43(0)316-5453-8401

E-mail: <a href="mailto:herwig.grogger@fh-joanneum.at">herwig.grogger@fh-joanneum.at</a>

#### Prof. Dr. Tauno Otto - professor of the School of Engineering, Tallinn University of Technology,

Ehitajate tee 5, 19086 Tallinn, Estonia

Tel. No.: +372 530 90 118 E-mail: tauno.otto@ttu.ee

#### Dr. Andreas Mehrle - Head of Department and Studies Mechatronics, MCI Innsbruck,

Universitätsstrasse 15, A-6020 Innsbruck, Austria

Tel. No.: +43-(0)512-2070-3910 E-mail: andreas.mehrle@mci.edu

## 3. Protocol of the Expert Committee's Work

The documents, which provide the basics for the evaluation procedure were delivered to the members of the expert committee (hereinafter EC) in electronic form in a timely manner. Amongst them, there are

- the Self Evaluation Report (hereinafter: SER) of the Faculty of Mechanical Engineering,
- reports of previous evaluations of the study programs in concern,
- guidelines for experts by the Kosovo Accreditation Agency (hereinafter KAA),
- code of good practice for site visits,
- additional documents delivered by request after the site visit.

The EC and the leaders of the Faculty of Mechanical Engineering (hereinafter FME) were acquainted with the protocol in advance and they accepted it as the content and time framework of their work.

Monday, 22nd May 2017 – University of Prishtina, Faculty of Mechanical Engineering, Prishtina

Time	Agenda
08:00 – 08:30	Preliminary meeting of the members of EC with Officer Fisnik Gashi in Hotel AFA
09:00	Meeting with the management of the Faculty of Mechanical Engineering (Dean Prof. Shala, Prof. Doci, Prof. Lajqi, Prof Qehaja)
09:15 – 10:00	Presentation of the current status and progress of FME by Dean Prof. Shala
10:00 – 12:00	Meeting of each expert with responsible persons of the assigned study programs to be accredited or re-accredited, respectively.
12:15 – 13:00	Visit of the facilities of FME (laboratories, new facilities) by all members of EC
13:00 – 14:30	Working lunch and discussion of EC and coordinators of KAA
14:30 – 15:45	Meeting with the teaching staff of assigned study programs
15:45 – 16:30	Meeting with seven students of the Bachelor's programs
16:30 – 16:45	EC browses displayed Bachelor- and Master theses
16:45 – 17:15	Closing meeting of EC and KAA with the management of FME, final discussion
17:15	The end of the site visit
19:30 – 22:00	Internal discussion of members of EC

According to the above mentioned protocol, the EC performed a site visit to the Faculty of Mechanical Engineering during which they held meetings with the leading management of the Faculty of Mechanical Engineering, head of the councils of study department "Mechanical Engineering", members of the committee in charge of the elaboration of Self-Evaluation Reports, separate meetings with responsible persons of the study programs under concern, teaching staff and students, and thus gained a direct insight into the activities, conditions and quality of work.

Mr. Fisnik Gashi and Mr. Elmi Kelmendi, both Officers for Evaluation and Monitoring of the Kosovo Accreditation Agency, assisted the site visit.

Based on the implementation of the described procedure, the expert team submits the following report:

## 4. Meeting with the Faculty Management

The new management of the Faculty of Mechanical Engineering (dean of the faculty Prof. Shala, vice dean for Teaching Affairs Doci, vice dean for quality and cooperation with industry Prof. Lajqi and vice dean for financial matters Prof. Qehaja) has been now in charge for more than a year. Dean of the faculty Prof. Dr. Ahmet Shala, gave an introduction of FME. The current and new organization outline of study programs, academic staff and student statistics, tools and facilities and the financial budget, and achievements, mainly since the new management is in charge, were presented. To the EC the following items appear important and are shortly discussed.

#### 4.1. Mission Statement

The mission statement of FME is given in the presentation of Prof. Shala and is well accepted and anticipated by the academic staff.

#### 4.2. Self-Evaluation Report

The Self Evaluation Report (hereinafter SER) comprises all relevant information to give a good overview for the experts and to prepare for the site visit in advance.

It is well recognized that, besides the usual tedious descriptions of study programs, of each subject and its teaching contents, further important information is now included, as there is

- an overview of academic staff including academic duties,
- student statistics,
- chapter on quality assurances,
- evaluation questionnaires for BSc-students, questionnaires for academic and administrative staff,
- list of publications, list of staff mobility, list of projects,
- milestone-plans for the period of 2014 2017,
- and a quality improvement plan of the previous recommendations from previous, evaluations.

Despite the fact that the SER has to follow a tight template, almost all relevant information is now included and delivered to the EC in advance.

It would be desirable that also the content of the presentation of Dean Prof. Shala could be included together with the SER in advance, but it is understood that the newest information can only be given at the day of the site visit.

<u>Recommendation:</u> the EC appreciates the current form of the SER and recommends continuing it in this way.

#### 4.3. New Organization Chart

It is noted that according to the new and reorganized study programs the organization is going to be updated, provided a positive accreditation. The two Bachelor programs "Manufacturing and Automation" and "Industrial Engineering and Management" continue in the Master's-program "Manufacturing and Industrial Engineering with Management". It is a logical consequence of the smaller student numbers in the Master's programs.

Also, the Bachelor program "Renewable Energy Systems" is going to be merged with "Thermotechnology and Thermoenergetics" to "Thermoenergetics and Renewable Energy". In the light of the student numbers for the mentioned programs, this is an appropriate consequence.

#### 4.4. Academic programs and Student Management

The following study programs of the Faculty of Mechanical Engineering were evaluated for accreditation and re-accreditation, respectively. Due to time-restrictions, the evaluation of the programs was distributed amongst the EC according to their individual expertise. The study programs were distributed as follows:

Study program	Level	Accr. /Re-Accr.	Expert	KAA officer
Traffic and Transport	BSc	Re-Accr.	H. Grogger	E. Kelmendi
Road Traffic	Msc	Re-Accr.	H. Grogger	E. Kelmendi
Thermoenergetics and Renewable Energy	BSc	Accr.	A. Mehrle	F. Gashi
Thermoenergetics and Renewable Energy	MSc	Accr.	A. Mehrle	F. Gashi
Manufacturing and Industrial Engineering with Management	MSc	Accr.	T. Otto	F. Gashi

Detailed discussions of the programs and recommendations are given later in the current report.

#### 4.5. Quality Management

The questionnaires for students, academic staff and administrative staff for the internal evaluation are provided in the SER. Nevertheless, the results and scores would be an important aid to assess the quality management of FME. It was a recommendation of the last years' evaluation process to provide information on that issue,

"Recommendation of the EC: [...] EC asks for the questionnaires, the results and a list of actions which resulted from the evaluation procedure. In general, in future SER shall have a comprehensive section of the evaluation of courses, lecturers and other relevant substances including the questionnaires, the results and the actions which resulted from the evaluation procedure."

(Cited from evaluation report June 30, 2016)

But the results are again not included. Unfortunately, it must be stated that the recommendation from the previous evaluation report (June 30, 2016) has been ignored.

In a response, FME considers the Students Survey an important means for quality management. It is claimed that the survey was provided to the EC via KAA as an attachment of FME's responses to the current draft report, but the EC did not receive it yet.

#### 4.6. Recommendations based on earlier reports

The current SER includes a quality improvement plan (section 7) for the study programs in concern. Recommendations of previous evaluation procedures by KAA are listed; actions and time-scales are given and are discussed.

Though it has to be mentioned that it is difficult to evaluate recommendations of earlier procedures, when they are not listed in that plan, since the EC may not be aware of such a recommendation.

<u>Recommendation of the EC:</u> the commission recommends continuing to include the mentioned quality improvement plans in the SER.

FME agrees to continue with the mentioned plans.

## 5. Re-Accreditation and Accreditation of Study Programs

The structure of the chapters follows the 'guidelines for experts (Academic Programs) from KAA. The questions raised in this guideline are printed in the following chapters in *italics*.

## 5.1. Study program "Traffic and Transport"- Bachelor program

#### **5.1.1.** Academic programs and student management BSc

Question: Does the academic program correspond to the institution's mission statement and principles of operation?

The academic program does correspond with the mission statement of the faculty.

Apparently, the study program "Traffic and Transport" shows the highest number of BSc-students of all study programs (340 persons), which is a major task to handle in teaching. Approximately 100-120 students enrolled for that study course each year. In contrast to that number a mere 39 students have graduated, roughly one tenth.

During the site visit it has been explained that a high drop-out rate exists in the first year. The reasons are, amongst others, wrong expectations of academic education and learning effort, not good enough prerequisite education, or an attractive job offer. Hence, the actual participating number of students in the first year is lower. Nevertheless, students, which are not 100% willing (or able) to work hard and try to finish their studies consume a lot of resources, both in teaching as well as in the facilities. For that reason it is appreciated that there is going to be a limitation of 90 students to enroll for the next academic year. It is understood that – based on the admission test – a ranking of all students is made, from which the 90 best will get the opportunity to study "Traffic and Transport".

On the long run (3-5 years) this limitation is very beneficial and pays off. The teaching resources are distributed among fewer students; there are more free places in laboratories, etc., which contributes to the quality of the education. It can be expected that the number of graduates is not going to decrease, though the total number of students will be lower. From the current experts own experience this self-enhancing mechanism takes about the mentioned period of time to show the positive results as graduates, which are highly sought on the labor market.

Question: Are the programs quality, range and academic aims appropriate to the academic degree?

The current BSc program has been established since a couple of years. The academic curriculum of the current curriculum is well designed and balanced. Both basic subjects as well as specific lectures are well balanced in the curriculum; additional subjects as foreign languages and basics of economics give a round picture of the study course.

It is appreciated that recommendations of previous reports have been implemented, and lectures on material science, basics of chemistry and economics have been included in the curriculum. Since air quality and pollution problems are going to be a major issue in future, a lecture on that subject appears reasonable for future engineers of "Traffic and Transport".

<u>Recommendation of the EC:</u> A subject dealing with the environmental aspects of Traffic and Transport should be implemented in the curriculum, preferably as a compulsory subject.

Question: Is the program based on an overarching didactic concept that has been adequately communicated to and adopted by the teaching staff?

In discussions with the management and some representatives of the teaching staff the EC has been convinced that there is an overarching didactic concept, as lecturing and teaching exercise, supported by seminars where appropriate, and that this is well adopted by the academic staff.

Question: Does the academic degree correspond to international standards?

The academic degree corresponds to international standards.

Question: Does the structure of the program give sufficient opportunity for independent study, reflection and analysis? (e.g. what is the proportion of independent study time compared to online/distance teaching and classroom units?)

Though the work-load based on the ECTS given in the SER is high, the distribution ECTS is rather generous (see below). Provided that students do not have other duties (part time work to make their living, etc.), there should be enough time for independent research, reflection and analysis.

Question: Is the allocation of ECTS appropriate and justified?

In general, the distribution of ECS is appropriate. There are a few details, which require explanation. For the current study programs "Traffic and Transport" (BSc) and "Thermoenergetics and Renewable Energy" many of the subjects in the first study year are the same; moreover, it is assumed that the lectures are taught together. But there appears some mismatch in the distribution of ECTS:

	ECTS (weekly hours lecture + exercise)			
Subject	Traffic and Transport	Thermoenergetics and Renewable Energy		
Physics	5.5 (2+2)	6.0 (2+2)		
Engineering Graphics	6.5 (2+2)	6.0 (2+2)		
Mathematics II	6.5 (3+3)	7.0 (3+3)		
Machine Elements	6.0 (2+2)	6.5 (2+2)		
Foreign Language II	6.0 (2+2)	5.5 (2+2)		

Further, the ECTS for some subjects are distributed very generous, e.g.

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Traffic Psychology (2nd year) 2 + 0 h (lecture + exercise) \rightarrow 4 ECTS, Academic writing (2nd year) 2 + 1 h (lecture + exercise) \rightarrow 4 ECTS,
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being quite high compared with very difficult and time consuming subjects, e.g., Technical Mechanics, which accounts for 6 ECTS (2+2 hours). It has to be noted that the whole diploma thesis accounts for 6 ECTS-points. The more or less equal distribution of ECTS-points does not reflect the actual effort for each subject.

A more realistic distribution of hours per week and the corresponding ECTS-points would be appropriate. Further, it would give some free space to adds further subjects (for example "Environmental problems of Traffic and Transport", see above) in the curriculum.

Recommendation of the EC: The distribution of ECTS-points and the correlated weekly hours should be re-inspected. The same subjects in different study courses should exhibit the same number of ECTS-points. Further, an adjustment of ECTS-points to the actual working load of each subject is strongly proposed.

Question: Is the workload required for the academic program manageable for students?

Based on the teaching hours per week and an estimated factor of 1-2 for additional self-study, roughly 40 to 60 hours per week appear manageable for students.

Question: Are the teaching methods and content of teaching units sufficient for the successful achievement of the programs goals and outcomes (competences and qualifications, knowledge and skills)?

In general, the teaching method (lectures in classes and exercises in smaller groups) are appropriate. Concerning the high number of students which fail on exams (about 65% for each attempt), some explanation is in order. At the site visit it was claimed that many students fail in the first year for aforementioned reasons. On the other hand, the low passing rate can be interpreted as a quality characteristics, namely that only well-prepared students may pass. It was explained that students have three attempts for each exam, and an additional commissional exam. Taking the figures of total number of students, passing rates and drop outs into account makes clear that taking exams – and correct them – is a big effort for the teaching staff.

In discussion with the management and teaching staff it was mentioned, that there is an "examination time" at the end of each semester, which cumulates the working effort for students. It has to be clarified, how many examination dates are offered for each subject.

Recommendation of the EC: If applicable: Examination dates should not only be offered at the end of each semester, but also spread over the entire academic year. Preferably 5-6 examination dates should be offered for each subject, if possible, also during summer.

This could spread the working load of students more evenly over the year and enables more students to pass exams in the first attempt.

Nevertheless, we assume the limitation of enrolled students to 90 to relax the situation; as a consequence, we expect passing rates to raise and the number of drop-outs to fall.

In their response, FME clarified that there are 5 examination times (January, April, June, September and November), and additionally 3 dates (March, May and December) for students of the final year. This is considered sufficiently. It is recommended to add this information in the SER in future.

Question: Is the overlap of academic content between the various parts of the curriculum comprehensible and transparent?

The distribution of subjects in the curriculum is designed in a way that desired overlaps between various subjects are possible. But finally it is on each lecturer to emphasize them and make them transparent.

Question: How do the admission criteria and admission procedures measure up to international standards?

The admission procedure foresees an admission test, which is based on examining mathematical skills of the applicant as being a key competence for natural and technical sciences. During the site visit, an often rather poor English education of applicants has been discussed, which is a strong limitation for studying and for professional careers.

<u>Recommendation of the EC:</u> For that reason it is recommended to include also some English questions in the admission test.

It is appreciated that up from the academic year 2017/18 there will be a limitation of study places in the first year to 90. As discussed above, admission procedures and limitation of study places contribute essentially to the quality of the education.

A further aspect should be bared in mind: if the admission procedure has been implemented for some time, valuable statistical information can be drawn out of it:

- following the success of students, correlations between admission ranking and study success can be established;
- certain schools and secondary education institutions can be identified, which provide the best educated applicants, which finally finish their studies successfully.

Recommendation of the EC: It is recommended to use the ranking of admission test for statistical correlations to predict high potential applicants, and to constantly improve the admission test.

It is understood that FME has already identified certain schools and advertises the study courses there. Nevertheless, the admission statistics should be archived and used for correlations.

*Question: Is the ratio of academic/artistic staff to students appropriate?* 

During the site visit, two new professors assigned to FME have been introduced, which are assigned to the study program "Traffic and Transport". At the time of the site visit it was not yet clear, when the contracts are signed, but it is a major step forward for FME.

Following the figures given in SER, 340 students are enrolled in the BSc-study program "Traffic and Transport". On the other hand, 20 professors plus 2 lecturers as well as 7 assistants make up the academic staff for that program (SER, page 266). Hence, a ratio of 22/340 = 0.0647, or 29/340=0.853 emerges, respectively. Those ratios can be considered appropriate. (It has to be noted that the number 0.058, given in SER page 270, appears not to be correct.) However, the SER does not give information about the activities/courses which have to be covered by the academic staff.

#### 5.1.2. Staff BSc

Question: Does the institution have an adequate proportion of permanent staff and appropriate proportions of permanent and external staff?

The SER reports 20 permanent professors, 2 lecturers (1 external) and 7 assistants. It is not clear, if the two new assistant professors (Y. Limani and R. Mazrekaj) are already included. That number of permanent staff appears to be appropriate. For the whole faculty, 40 professors and assistants and 25 external lecturers are reported, though for the current study program only one external lecturer is listed. Lecturers from 'outside the academic world' can provide external practical knowledge, and very often useful contacts to industry can be established. For that reasons, we recommend including more external lecturers from industry, governmental authorities and private business.

<u>Recommendation of the EC:</u> we recommend including more external lecturers from industry, governmental authorities and private business, preferably for elective subjects.

From the response of FME it is understood that there are already lecturers from the Industrial board, as well as from private companies, but financing them appears to be difficult.

Question: Does the academic staff demonstrate proven ability at a high academic and didactic level and are their qualifications appropriate to the positions they hold within the institution according to the basic criteria?

The academic staff is in charge for many years; the long list of publication proves their ability of research works. The academic staff doubtlessly is well prepared to fulfill all academic, didactic and research requirements for the institution.

#### 5.1.3. Research and International Cooperation BSc

Question: Is the teaching staff involved in research activities inside or outside the institution, and do these research activities feed back into teaching/course contents?

The SER documents many research activities, both national as well as international. Further, many international projects are listed (SER, p. 341). It is recommended to continue this way.

Question: Are the extent and the quality of international cooperation in research and teaching adequate? (See previous question)

Question: Are students involved in research and cooperation projects?

The list of publications given in the SER (p. 323) shows many co-authors, which very probably are students. It is concluded that students actively take part in research works, mainly during their internships or diploma-works; this has been confirmed by FME in their response.

#### 5.1.4. Finances and Infrastructure/Space and Equipment BSC

Question: Does the institution have an adequate budget plan?

In his presentation Dean Prof. Shala showed the financial situation of FME. We appreciate that the budget for 2017 has almost doubled compared to 2016, which is a great success. It is claimed that the budget for laboratory devices has increased by 400.000,- Euro. It is recommended, that

<u>Recommendation of the EC:</u> a small fraction of the additional money is used to modernize computer facilities for students and to finish the pending works on the faculty library.

It is responded, that the extension of the Faculty library is planned and a request has been made for its financing.

Question: Does the institution have adequate buildings and specialized infrastructure for the requirements of the program?

During the site visit the buildings and laboratories have been visited. They appear appropriate for the needs for education and research for FME. It is recognized positively that the main building of FME is currently modernized. Further, the acquisition of a new building for laboratories is also a great step forward.

#### 5.1.5. Quality management BSc

Question: Are the institution's programs assessed regularly within the context of internal evaluation processes?

Apparently, there is an internal evaluation process for different groups at the university: students, academic staff, and administrative staff. Those evaluations are based on questionnaires and comprise many detailed questions. The evaluations are presented to faculty members only. Evaluations of lectures, done by students, are only presented to the faculty team, except to students who are in the corresponding committee. Questionnaires for the evaluations are included in the SER, but the results are not. For further reporting periods it is highly recommended to include the results of the self-evaluation in the SER to give the EC the possibility to assess the quality management of FME properly.

<u>Recommendation of the EC:</u> It is highly recommended to include results of the evaluation by students, academic staff and administrative staff in the SER. Especially the results for lectures are important to assess the quality of teaching, and should be discussed with students.

Concerning the students' evaluation of lectures the last years report recommended that the results should be presented to the students. In that year it was promised that introduction of an electronic system would easy the analysis of the data. Since the old method was based on paper forms, which had to be checked by hand. This year the electronic system is blamed not to function very well and the evaluation cannot be shown. A change to paper based forms is in discussion.

Nevertheless, the results of the students' evaluation have not been shown to the students (only to student representatives in the corresponding commissions). On a modern university quality management of teaching through evaluation of lectures by students is an indispensable means of quality improvement and it is necessary to present results to the evaluating students. In this way students have the opportunity and

the responsibility to actively take part in the quality improvement of teaching. Only the discussion with the students closes this feedback loop.

Recommendation of the EC: It is highly recommended to discuss results and/or statistics of the student's evaluations with the evaluating persons (students). It is an essential means to assurance the quality of teaching and an indispensable means of quality management of a university.

### 5.2. Study program "Road Traffic" - Master program

#### 5.2.1. Preamble

The study program "Road Traffic" constitutes the corresponding master's-program for the bachelor's program "Traffic and Transport", which was discussed above. Since the teaching environment, the academic staff and all other entities are the same as for the Bachelor's program, only those issues are discussed in detail, which require some comments.

#### 5.2.2. Academic programs and student management MSc

Question: Does the academic program correspond to the institution's mission statement and principles of operation?

The academic program corresponds with the mission statement of the faculty. It is appreciated that the SER gives a list of competences, which graduates will have. Further, prospective employment possibilities for graduates of the particular study program are also included. It shows that the current program has been designed with providence.

A limitation of enrolled students to 30 is much appreciated. This will keep the level of education high; the arguments are given in the Bachelor's program. Interestingly, the passing rates in the current program are much higher than in the corresponding Bachelor's program, and the dropout rates are very small. This can be due to the limitation of study places.

Question: Are the programs quality, range and academic aims appropriate to the academic degree?

Yes. In general, an MSc program is aimed to deepen the acquired knowledge from the Bachelor's studies. The subjects included in the Master's-program are in this sense.

Question: Is the program based on an overarching didactic concept that has been adequately communicated to and adopted by the teaching staff?

Yes, the concept is comparable to that of the Bachelor's program (see there).

*Question: Does the academic degree correspond to international standards?* 

Generally spoken yes, however a stronger involvement of English as a working language would be beneficial. As an international standard many of the master's-program is totally held in English. It is

understood that in the current situation, this would not make much sense; nevertheless, some subject could be taught in English. Further, Master theses could be written in English.

<u>Recommendation of the EC:</u> It is highly recommended that some subjects or at least part of it are given in English to strengthen the ability of students to communicate internationally. Furthermore, students should be encouraged to write their master's thesis in English

Additionally, an involvement of external lecturers from industry would be preferable to strengthen the contacts for internships and diploma-works.

Question: Does the structure of the program give sufficient opportunity for independent study, reflection and analysis? (e.g. what is the proportion of independent study time compared to online/distance teaching and classroom units?)

Based on the ECTS given in the SER sufficient opportunity should be given. Especially, if the generous distribution of ECTS is taken into account.

*Question: Is the allocation of ECTS appropriate and justified?* 

Similar comments as for the BSc-program applies. The ECTS-points do not reflect the actual workload for a particular subject. For example, according to the ECTS distribution, the subject "Theory of Vehicle Movement" (6.5 ECTS) counts just 1.5 ECTS points more than "Traffic Management", though the workload might be much higher.

<u>Recommendation of the EC:</u> It is recommended to reassess the ECTS of the subjects. They very probably do not represent the actual workload.

Question: Is the workload required for the academic program manageable for students?

Based on the weekly hours and the ECTS provided in the SER the program seems to be manageable for the students.

Question: Are the teaching methods and content of teaching units sufficient for the successful achievement of the programs goals and outcomes (competences and qualifications, knowledge and skills)?

The teaching methods are in general appropriate. (See Bachelor's program)

Question: Is the overlap of academic content between the various parts of the curriculum comprehensible and transparent?

The different lectures appear well linked and integrated. The curriculum is transparent and comprehensible. Due to the offered elective subjects, the student can design his/her studies according to their own interests. It is appreciated, that despite the smaller number of students, many elective subjects are offered.

*Question: Is the ratio of academic/artistic staff to students appropriate?* 

There are 90 students in the current program, and the SER lists 17 professors and 4 assistants designated for that study program. Following those numbers, the ratio of staff to students is appropriate.

#### 5.2.3. Staff

See BSc program

#### **5.2.4.** Research and International Cooperation

In general, the comments of the Bachelor's program apply.

Question: Is the teaching staff involved in research activities inside or outside the institution, and do these research activities feed back into teaching/course contents?

Question: Are the extent and the quality of international cooperation in research and teaching adequate?

Question: Are students involved in research and cooperation projects?

The SER gives a list of 11 international projects, which have been worked on in the period of 2014-2017. Further, a list of publications gives evidence that the academic staff is well involved in research projects. It is assumed, that the results feed back to the education of students.

The list of publications given in the SER (p. 323) shows many co-authors, which very probably are students. It is concluded that students actively take part in research works, mainly during their internships or diploma-works, which is confirmed by FME in their response.

#### 5.2.5. Finances and Infrastructure/Space and Equipment

See BSc program

#### **5.2.6.** Quality management

See BSc program

## 5.3. STUDY PROGRAM "Thermoenergetics and Renewable Energy"-Bachelor program

#### 5.3.1. Academic programs and student management BSc

Question: Does the academic program correspond to the institution's mission statement and principles of operation?

The academic program does correspond with the mission statement of the faculty.

Question: Are the programs quality, range and academic aims appropriate to the academic degree?

In general, a BSc program shall aim at providing a solid base for the proposed scientific area, i.e. mechanical engineering. Having this solid foundation would allow a further deepening of knowledge

within appropriate MSc programs. The current BSc program has been created by joining two existing programs: "Thermoenergetics and Thermotechnology" and "Systems of Renewable Energy". It is understood that this is due to shortage of staff and the respective regulatory requirements. In fact the master program of "Thermoenergetics & Thermotechnology" seems to have been not re-accredited 2016 due to this exact reason.

The recommendations for the predecessor programs (generation of a broader basis, removal of specialization at bachelor level, reconsideration of 'Practicum on renewable energy sources') have already been integrated into the design of the program under accreditation.

Question: Is the program based on an overarching didactic concept that has been adequately communicated to and adopted by the teaching staff?

The program shows an overarching concept throughout: beginning with general subjects in the first year which is common across the bachelor programs of FME, the education in the second year turns to basics courses like thermodynamics, fluid mechanics and engineering mechanics, and finally concentrates on applied subjects in thermal machinery and methods in the third year. An internship introduces the students to industrial work in the related field, and the diploma thesis further emphasizes the research character. Both of them are given ECTS points although it is questionable whether the amount is adequate (4 ECTS and 6 ECTS respectively). Also the students are encouraged to do both in semester 6 which is already loaded with courses adding up to 25 ETCS.

There are electives throughout all semesters adding up to 31 ECTS which enables the students to follow their interests up to a certain degree. Still economics and management-related subjects ('Project management' and 'Energy economy' as electives) and languages ('Foreign language I' compulsory and 'Foreign language II' elective) are scarce. Fundamentals of accounting, marketing etc. are missing altogether.

Previous recommendations:

- integrating a second economy-related subject
- making core courses such as 'Applied fluid mechanics' and 'Applied thermodynamics' compulsory (the latter in the master)
- creating courses on statistics and chemistry were followed.

<u>Recommendation of the EC:</u> It is recommended to create extra-curricular courses on management, entrepreneurship and language if there is no space in the curriculum.

Question: Does the academic degree correspond to international standards?

The composition of the subjects is somewhat conservative. However, the organization, requirements and general procedures correspond to international standards.

Question: Does the structure of the program give sufficient opportunity for independent study, reflection and analysis? (e.g. what is the proportion of independent study time compared to online/distance teaching and classroom units?)

Based on the hours of study and the ECTS written in the SER sufficient opportunity should be given. Hence there should be sufficient time for the students for self-learning activities in what concerns the courses.

Question: Is the allocation of ECTS appropriate and justified?

At first sight the allocation of ECTS credits the courses seems to be appropriate and justified. However, it is not clear whether the numbers given in the ECTS calculation tables reflect reality. As mentioned previously the same is doubtful for the internship thesis which seem with 4 and 6 ECTS for a reported effort of 4 weeks and 2 to 3 months respectively underrated. Also, inconsistencies in the assignment of ECTS of identical subjects between the programs have been already mentioned earlier.

<u>Recommendation of the EC:</u> It is recommended to assign more ECTS to the internship and the bachelor thesis. It is also recommended to involve the students when updating the ECTS allocation.

Question: Is the workload required for the academic program manageable for students?

Based on the Hours of Study and the ECTS written in the SER the program seems to be manageable for the students. Concerning the general ECTS topic see above. Also students reported that finishing of the program within the foreseen 3 years is feasible.

Question: Are the teaching methods and content of teaching units sufficient for the successful achievement of the programs goals and outcomes (competences and qualifications, knowledge and skills)?

The teaching method in the first year relies on the classical lecture-exercise combination, which is appropriate for elementary subjects. In the course of the study program, more practical or project-oriented subjects are included, which is a proper way to prepare students for their career. Concluding, the teaching methods and content of teaching units seem to be sufficient to achieve the educational goals. The large number of initial students (90 are envisaged) seem to reduce considerably within the first year.

Question: Is the overlap of academic content between the various parts of the curriculum comprehensible and transparent?

The different lessons are well linked and integrated. The curriculum is transparent and comprehensible.

Question: How do the admission criteria and admission procedures measure up to international standards?

The admission procedure foresees an admission test, which is basically a test of mathematical skill. As prerequisite the student must have Matura from a secondary school. It is noted positively, that there is an admission procedure to rank students, and a limited number of study places (90 places) although this is in drastic contrast to the low numbers of graduations. Remarkable is the high dropout rate throughout the first year. In order to optimize resources reducing the number of initial students might be helpful.

<u>Recommendation of the EC:</u> We recommend the limitation of the students to the available resources like lecture rooms, computers, laboratories and staff.

Question: Is the ratio of academic/artistic staff to students appropriate?

Following the SER there is a wide range in the ratio of academic staff to students from the 1st semester to the final semesters. According to the SER (pp. 262) currently 8 regular academic staff (full time) and 4 external academic staff (part term) are allocated to the department Thermoenergetics and Renewable Energy for both master and bachelor. Assignment to this BSc program is unclear. If the drop out will be comparable to the predecessor programs an overall students number of approximately 160 (90 first year,

50 second year, 20 final year) is expected. The ratio between students and staff (assumed half of the staff is assigned to the bachelor) would base on this calculation be 26.7. Since lectures in the first year are shared among the study programs, actual numbers are lower but difficult to calculate.

<u>Recommendation of the EC:</u> It is recommended to improve the ratio of academic staff to students by hiring external lecturers or assistants.

#### 5.3.2. Staff BSc

Question: Does the institution have an adequate proportion of permanent staff and appropriate proportions of permanent and external staff?

As mentioned in the previous report there still seems no staff from 'outside the academic world' being employed in teaching.

<u>Recommendation of the EC:</u> We strongly recommend including external practical knowledge in the lessons and exercises from industry, authorities and private business.

Question: Does the academic staff demonstrate proven ability at a high academic and didactic level and are their qualifications appropriate to the positions they hold within the institution according to the basic criteria?

Many CVs show expertise in teaching. During the program specific conversations the willingness to improve educational quality was expressed several times and credibly. Much to the experts surprise this is in strong contrast to the unclear handling of the evaluation results at university level.

#### 5.3.3. Research and International Cooperation BSc

Question: Is the teaching staff involved in research activities inside or outside the institution, and do these research activities feed back into teaching/course contents?

According to the SER FME is active in international research programs and in cooperation with European universities.

Recommendation of the EC: We recommend the continuation of these activities.

Question: Are the extent and the quality of international cooperation in research and teaching adequate?

There are outgoing initiatives for teachers and researchers but few incomings. Lately it seems that new positions are preferably filled with internationally experienced staff. This handling is fully supported by the EC.

Question: Are students involved in research and cooperation projects?

Following the SER, conversations during the on-site visit and what can be seen in the thesis students are included in research projects.

#### 5.3.4. Finances and Infrastructure/Space and Equipment BSC

*Question: Does the institution have an adequate budget plan?* 

The FME is part of the University of Pristina and has an annual budget plan within the University. There is quite little possibility for the FME to influence the budget allocation. However, in 2016 a considerable increase (more than 300%) with respect to the previous year could be achieved. Clear plans for the allocation of the available budget were presented only on an oral basis. A rather vague plan of future development was presented during the site-visit. However, time-lines and budget allocation for fulfilling the plans were missing. A more detailed plan for further development including time-lines and required budget allocation is requested for further SERs.

Question: Does the institution have adequate buildings and specialized infrastructure for the requirements of the program?

We recognize the engagement in redesigning and upgrading class rooms and recommend continuing this way especially with invest in IT equipment, presentation technology and laboratories like workshop facilities for practical exercises. Some of the labs would need more basic equipment in order to come closer to international standards. However, it has to be mentioned, that new managing group (dean, vice-deans, etc.) seems to be very active in improving the current situation.

#### 5.3.5. Quality management BSc

Question: Are the institution's programs assessed regularly within the context of internal evaluation processes?

There is an evaluation process of the lectures at the University of Pristina. This process covers all courses. According to the information provided during the site visit, the results of these evaluations are presented only to the faculty members but not to the students (except those students sitting in the appropriate committee). In the interview with the representatives of the rectorate it was mentioned that recently an electronic evaluation process for the individual lectures has been started. For further reporting periods such results need to be included into the QA section of the SER and not only the questionnaires.

<u>Recommendation of the EC:</u> It is highly recommended to include results of the evaluation by students, academic staff and administrative staff in the SER. Especially the results for lectures are important to assess the quality of teaching, and should be discussed with students.

#### 5.3.6. Recommendations BSc

The BSc program under accreditation was created combining two existing programs and will start in fall 2017. Before further modification it is suggested that the current concept is tested and experience gathered until including improvements at the time of re-accreditation. Currently we suggest mainly additional (non-curricular) measures such as:

- Implementation of non-curricular subjects in economics, entrepreneurship and language
- Reevaluation of the ECTS points per subject
- Further extension of workplaces with PC would be beneficial.
- A compilation of the results of the student evaluations for teaching and courses need to be documented also in the SER and to be published to the students.

A compilation of the results of the questionnaires for academic staff, administration and supporting stuff needs to be published in the SER.

## 5.4. STUDY PROGRAM "Thermoenergetics and Renewable Energy"- Master program

#### 5.4.1. Academic programs and student management MSc

Question: Does the academic program correspond to the institution's mission statement and principles of operation?

The academic program corresponds with the mission statement of the faculty.

Question: Are the programs quality, range and academic aims appropriate to the academic degree?

In contrast to BSc programs, an MSc program shall further deepen the knowledge of the students in the field of the program, provide the opportunity to specialize and introduce the students to the area of research.

The current MSc program has been created from the existing "Thermoenergetics and Thermotechnology" program. It is intended to provide continuation for students from the newly introduced "Thermoenergetics and Renewable Energy" bachelor program. In order to keep its profiles in both "Thermoenergetics and Thermotechnology" and "Systems of Renewable Energy" the students may elect one of two specializations (called 'profiles') in the latter topic.

Question: Is the program based on an overarching didactic concept that has been adequately communicated to and adopted by the teaching staff?

The program shows an overarching concept. It is based upon the bachelor program with the same name and a logical continuation for students aspiring the master degree.

Comparable to the bachelor also in the master one elective is provided in semesters 1 to 3 adding up to 17.5 ECTS credits. Economics, management and entrepreneurship-related subjects as well as languages are missing altogether.

Recommendation of the EC: It is recommended to create extra-curricular courses on management, entrepreneurship and language if there is no space in the curriculum. It is recommended to consider to further offering lectures across the department borders in order to modernize the curriculum. 'Control systems' or 'Electric drive systems' e.g. would be highly interesting to students of the program under accreditation.

Question: Does the academic degree correspond to international standards?

The same is true which was already said for the bachelor program with the difference maybe that topics such as automation, electrical engineering and electronics are even more relevant for the master program. Otherwise the academics degree corresponds to international standard.

Question: Does the structure of the program give sufficient opportunity for independent study, reflection and analysis? (e.g. what is the proportion of independent study time compared to online/distance teaching and classroom units?)

Based on the hours of study and the ECTS written in the SER sufficient opportunity should be given. Hence there should be sufficient time for the students for self-learning activities in what concerns the courses.

Question: Is the allocation of ECTS appropriate and justified?

For semesters 1 to 3 the picture is comparable to the bachelor program. The internship and the thesis in semester 4 however are adequately reflected in the overall credit assignment (10 and 20 ECTS credits respectively).

Question: Is the workload required for the academic program manageable for students?

Based on the Hours of Study and the ECTS written in the SER the program seems to be manageable for the students.

<u>Recommendation of the EC:</u> It is recommended to involve the students when updating the ECTS allocation.

Question: Are the teaching methods and content of teaching units sufficient for the successful achievement of the programs goals and outcomes (competences and qualifications, knowledge and skills)?

The teaching methods are in general adequate.

Question: Is the overlap of academic content between the various parts of the curriculum comprehensible and transparent?

The different lessons are well linked and integrated. The curriculum is transparent and comprehensible.

Question: Is the ratio of academic/artistic staff to students appropriate?

According to the SER (page 262 ff) currently 8 regular academic staff (full time) and 4 external academic staff (part term) are allocated to the department Thermoenergetics and Renewable Energy for both master and bachelor. Assignment to this MSc program is unclear. If the drop out will be as little as in the other master programs an overall students number of approximately 40 students can be expected. The ratio between students and staff (assumed half of the staff is assigned to the bachelor) will then be 6.7.

This is an excellent ratio.

#### 5.4.2. Staff

See BSc program

#### 5.4.3. Research and International Cooperation

General statements see BSc program. On MSc level the involvement of international cooperation is even more important and should be increased.

#### 5.4.4. Finances and Infrastructure/Space and Equipment

See BSc program

#### **5.4.5.** Quality management

See BSc program

## 5.5. Study Program "Manufacturing and Industrial Engineering with Management"- Master program

#### 5.5.1. Academic Program and Student Management

Question: Does the academic program correspond to the institution's mission statement and principles of operation?

The academic program corresponds to the institution's mission statement and principles of operation. Manufacturing and Industrial Engineering with Management is similar to internationally well-known definition for higher educational programs "Industrial Engineering and Management" and "Manufacturing Systems Engineering and Management". It is recommended to modify the name of the study program in English to more standard name "Manufacturing Systems Engineering and Management". The program has two majors: Manufacturing and Automation; and Industrial Engineering and Management. The program is in Albanian, but for enabling further internationalization and participation in Erasmus exchange program more emphasize should be put to English. Some courses should be offered in English.

Question: Are the programs quality, range and academic aims appropriate to the academic degree?

The programs quality, range and academic aims are appropriate to the academic degree "Master of Mechanical Engineering". In the curriculum, the Diploma Work is credited by 20 ECTS, corresponding to international academic level. The Master's Diploma Thesis is allowed to be written in foreign language in some cases, as number of international companies is increasing in Kosovo, having interest towards collaboration with university.

Question: Is the program based on an overarching didactic concept that has been adequately communicated to and adopted by the teaching staff?

"Manufacturing and Industrial Engineering with Management" is per definition an overarching didactic concept that has been adequately adopted by the teaching staff. It is combining traditional Engineering (mostly taught in faculties of Mechanical Engineering all over the world) with deeper understanding of Management (often taught in cooperation with faculties/schools of Economics/Business Administration). The dropout rates in university at MSc level are about 33% during last years, and employment rate after graduation is high.

Question: Does the academic degree correspond to international standards?

The current study program is based on experiences of reference universities (mostly Sarajevo and Zagreb) used in compilation of the program. The academic degree corresponds to international standards. Internship includes agreements both with local companies and foreign universities (Polytechnic University of Tirana, FH Münster, TU Wien, University of Maribor, and UACS).

Question: Does the structure of the program give sufficient opportunity for independent study, reflection and analysis? (e.g. what is the proportion of independent study time compared to online/distance teaching and classroom units?)

The proposed study program comprises subjects with 30 ECTS points per semester, which is corresponding to accepted full work load of student all over Europe. There is enough time for independent study. Most of studies are regular classroom studies. The possibilities of distance learning depend very much upon ICT development – there was evidence of online library available in open access wireless university network. The number of elective courses in study program has been increased, what is positive. However, free choice courses are still not shown in study program.

There were no English taught courses, and study program managers said, that it is because of low level foreign language in schools/colleges. However, students have passed English courses in BSc level, and should be prepared to take at least some course in Master level fully in English, as preparation to scientific and internationally successful career. However, there was evidence of modules taught in English by using visiting lecturers in some courses, so the trend is positive.

Project works are inside courses, and courses are mostly short-time (except in Mechatronics).

Question: Is the allocation of ECTS appropriate and justified?

The allocation of ECTS points is appropriate. The subjects are very well sized, having 6 ECT. Graduation thesis in amount of 20 ECTS are included into the program Also, the curriculum enables 10 ECTS for Professional Internship, and field studies are integrated into some subjects. However, from the study program student course projects are not evident, when meeting students and teachers it was explained that course works in practice are in several subjects

Question: Is the workload required for the academic program manageable for students?

The workload required for the academic program is manageable for students, but including free choice studies into curriculum would make it more student-friendly and clear.

Question: Are the teaching methods and content of teaching units sufficient for the successful achievement of the programs goals and outcomes (competences and qualifications, knowledge and skills)?

The teaching methods and content of teaching units described in curriculum are sufficient for the successful achievement of the program's goals. There was evidence of using ICT technologies in class

exercises. However, there has not been implemented common e-learning platform (e.g. Moodle) in study process. The program is well designed to achieve the goal of educating engineers in Manufacturing and Industrial Engineering with Management. Concerning the number of available study places, the filled 34 enrolled students at Master's level in previous "Industrial Engineering and Management" is a good result. Also, BSc level study programs are feeding the intake in next years (Manufacturing and Automation BSc: 167 students, Industrial Engineering and Management BSc: 97 students), thus 30 planned study places are realistic.

Question: Is the overlap of academic content between the various parts of the curriculum comprehensible and transparent?

The overlap of academic content between the various parts of the curriculum is comprehensible and transparent during the first semester. Starting from second semester the two majors have different study modules, and having more common part should be advised. Overall the study program corresponds to international similar study program in Europe.

Question: How do the admission criteria and admission procedures measure up to international standards?

The admission criteria and admission procedures correspond to international standards and students passing BSc in mechanical engineering or economy can start studies at the study program There are high potential to involve substantial number of female students, what adds value to the program.

Question: Is the ratio of academic/artistic staff to students appropriate?

Basically, the Faculty of Mechanical Engineering has an adequate number teaching staff in this study program (12 Regular professors, 1 regular lecturer, + 1 Regular Assistant + 2 External Assistants) to fulfill the aims of educating students according to international standards. Ratio of academic staff/students is 14/30 = 0.46

#### 5.5.2. Staff

Question: Does the institution have an adequate proportion of permanent staff and appropriate proportions of permanent and external staff?

As the number of student increase, there will be need for additional academic workforce. There are three staff members as PhD students finishing studies in universities of Turkey and Slovenia, who after defense will be promoted. There is call for six new professorships from October 2017.

Question: Does the academic staff demonstrate proven ability at a high academic and didactic level and are their qualifications appropriate to the positions they hold within the institution according to the basic criteria?

The academic staff has proved ability at a high academic and didactic level and is their qualifications appropriate to the positions they hold within the institution according to the basic criteria. There was evidence of elaborated study materials and developed new laboratories. Several staff members have studied abroad, however for publishing activities knowledge of English language should be continuously supported by regularly sending staff members to international conferences.

#### **5.5.3.** Research and International Cooperation

Question: Is the teaching staff involved in research activities inside or outside the institution, and do these research activities feed back into teaching/course contents?

The teaching staff is involved in research activities of the institution, mainly publishing at conference proceedings, but also international cooperation program. Several laboratory equipment has been received through international cooperation.

Starting 2016 there is composed a list of recommended journals for publishing.

Question: Are the extent and the quality of international cooperation in research and teaching adequate?

The extent and the quality of international cooperation in research and teaching have been improved through recent years and are adequate to university level.

Question: Are students involved in research and cooperation projects?

Students have spent time abroad participating in practice program.

#### 5.5.4. Finances and Infrastructure / Space and Equipment

Question: Does the institution have an adequate budget plan?

The institution has an adequate budget plan. The investments into teaching and research laboratories have considerably improved.

Question: Does the institution have adequate buildings and specialized infrastructure for the requirements of the program?

There is plenty of room in buildings fulfilling requirements of the program, but further investments into laboratories equipment and ICT should continue. The reading room at library was quite small and it was also suggested by students to increase study area of library. Laboratories can amount few work-groups, but the existing equipment needs careful planning to organize teamwork. The number of rooms dedicated to building prototypes (hands-on learning) should be increased. Yearly Faculty invests from overall budget 183.000,- EUR certain amount 100.000,- EUR into teaching materials and infrastructure, and 2016 was purchased of Festo machine automation didactic set.

#### 5.5.5. Quality Management

Question: Are the institution's programs assessed regularly within the context of internal evaluation processes?

The Master's study course for Manufacturing and Industrial Engineering with Management is a new initiative. The Faculty has shown development and proved assessment of their curricula, and the self-evaluation reports have been prepared properly. Quality is managed by Vice Dean of Quality and Co-operation with Enterprises. The Programme Director is responsible for development of study programme, and this additional workload is also motivated by additional salary (70 EUR per month). Study programme issues are discussed once in a month at departmental meeting.

Starting last year, the feedback from students is gathered electronically.

#### 5.5.6. Recommendations

At least some courses on MSc level should be offered in English.

It is recommended to emphasize digitalization of manufacturing, and include topics as 3D printing (additive manufacturing) and Industry 4.0 into courses.

Free choice courses should be included into curriculum to make it more student-friendly and clear.

For publishing activities knowledge of English language should be continuously supported by regularly sending staff members to international conferences.

It is recommended to promote publishing in high-level journals, and corresponding motivation system for academic staff members should be initiated.

There is still missing systematic supportive e-learning. At Master's level implementation of e-learning should be promoted.

## 6. Meeting with Students

#### 6.1. General comments

The EC met nine students of the study programs in concern to get a picture from the students' point of view. All of them are currently in a BSc-program, no Master student was present. To the surprise of the EC all of them were fluent in English to a degree rarely seen at the respective home institutions.

#### 6.2. Feedback process

During the visit it became clear that evaluations of lectures by students are still not working in the sense that the results are discussed with them. In discussions with the present students it was realized, that they would like to see the results and to discuss them with the corresponding lecturer. It has been already mentioned in the current report that it is an indispensable means to improve the quality of teaching, if students themselves take responsibility to improve their study program.

#### 6.3. Course offer

Students draw an overall positive picture of the quality of education. They mentioned the motivation of their professors as well as the high level of course contents. Being asked about extracurricular offer the showed considerable interest and readiness to invest extra hours for a potential offer in non-technical subjects.

#### **6.4.** Dropout rate

The high dropout rate was also discussed with the students. They regard that high rate, especially in the first year, not a serious problem. They claim that many students change their mind for another study program or find a job.

A main reason for the high drop-out rate in BSc might be a rather poor pre-education in secondary schools. The limitation of study places might reduce the rate.

## 7. Meeting with the Teaching Staff

Teaching staff as well as the students are the most important stakeholder (the ones to whom it concerns) of the University. Valuable input can be given to initiate improvement processes, but also weak points can be figured out.

- Teaching staff:
  - o assistant professors are independent from full professors,
  - o technical assistants are dependent from full professors,
  - o research assistants don't exist at the university,
  - o for promotion the possibilities available and clear,
  - o technical assistants become by a contract for 3 years (can be extended to 4 years) and they can apply for assistant professor if they fulfill all the criteria,
- There is enough academic freedom on all levels, they can also choose their field of research.
- Teaching assistants publish related to their PhD studies in countries abroad
- The questionnaires for teaching and academic staff were relevant (results are not in the self-evaluation report).
- The questionnaires from students were send to the rector and if there are some problems the teacher is involved and improvements must be planned.
- Administration is only a minor part of their overall workload.

## 8. Closing the Site-visit

- The EC inspected copies of BSc- and MSc- theses, which were displayed in the meeting room. Though all works are written in Albanian, the formulas could be read. The appearance of the works is very reputable.
- The time-lines for the evaluation process was discussed with the management of FME, as there is:

Date	Content	Who delivers
23. May 2017	Additional documents are requested	EC
26. May 2017	Additional documents provided	FME
1. June 2017	Draft Report to KAA	EC
8. June 2017	Response to Draft Report	FME
14. June 1017	Final Report	EC

Additional documents have already been provided by May 27<sup>th</sup> 2017, draft report was sent on June 1<sup>st</sup> to KAA, response of FME to Draft Report was received on June 9<sup>th</sup> 2017.

#### 9. Final Assessment and Recommendations to National Council

Based on the Self Evaluation Report and attached documents, as well as discussions with all participants of the education process and the insight into the situation on site during the site visit, the Expert Committee for evaluation of the Faculty of Mechanical Engineering established that the Faculty of Mechanical Engineering has been performing successfully its defined mission. It fulfils the expectations of the public in all fields of its activities in general.

Applying the given advises and recommendations can improve the level to European and International standards.

### 9.1. Suggested Periods of Accreditation and Re-accreditation

The Expert Committee suggests to the council to accredit, or re-accredit, respectively, all mentioned bachelor and master study programs in this report.

#### 9.1.1. Study program "Traffic and Transport" (BSc) and "Road Traffic" (MSc)

Both study programs are in a good status. Minor improvements based on the recommendations given in this report should be undertaken. The effort in terms of administrative and/or budgetary resources is small, it is mainly a matter of willing. For that reason, a period for re-accreditation of

5 years

is suggested for both study programs.

#### 9.1.2. Study program "Thermoenergetics and Renewable Energy (BSc and MSc)

Both study programs are set up in a proper and promising way. The recommendations made may be considered before re-accreditation after the initial accreditation phase also in the light of the experiences made. For that reason, accreditation for the maximum possible period of

3 years

is suggested for both study programs.

### 9.1.3. Study program "Manufacturing and Industrial Engineering with Management (MSc)

The study program has high potential and it is set up according to reference universities best practices. However, there are several recommendations, and these need to be considered before re-accreditation. For that reason, accreditation for the maximum possible period of

3 years

	- J	
is suggested for the study program.		
Finalized in Graz, June 14th, 2017.		
Prof. Dr. Herwig Grogger	Prof. Dr. Tauno Otto	Dr. Andreas Mehrle