



INTERNATIONAL UNIVERSITY OF SARAJEVO  
INTERNACIONALNI UNIVERZITET U SARAJEVU

## Comments on the Review Report of the Expert Panel

International University of Sarajevo

**Bachelor programme “Electrical and Electronics Engineering”**  
**Master programme “Electrical and Electronics Engineering”**

### 1 Standard 1: Study program and program management

Bachelor program: “Electrical and Electronics Engineering”

**Condition 1:** *Substitute the language courses “Spoken Turkish/Bosnian 1 and 2” with subjects aligned with the quality objectives of the framework of the European Higher Education Area. This can be done, for instance, by exchanging them with a 4-ECTS-credited programme elective course.*

#### IUS opinion and further actions

IUS agrees with the condition 1 to substitute language courses “Spoken Turkish/Bosnian 1 and 2” with subjects aligned with the quality objectives of the framework of the European Higher Education Area.

We propose the following action to be taken in order to achieve this:

1. Exclude the “Spoken Turkish/Bosnian 1 and 2” from the list of required courses in the EEE Curriculum (which takes 4-ECTS in total) and transfer them to the list of elective courses.

**Condition 2:** *Adjust the distribution-ratio between theoretic-lessons and practical-lessons in all courses to level that fulfils the requirement of the specific course (instead of the constant 3-to-2-ratio).*

#### IUS opinion and further actions

IUS agrees that the distribution ratio between the theoretic lessons and practical lessons should be adjusted and the EEE program will work on this accordingly.



**Condition 3:** *Introduce fields of specialization (e.g. communication engineering, power systems, electronics and microelectronics, and automation engineering) in 4th year of the Bachelor programme. Each field of specialization shall comprise a variety of elective courses. The individual students shall, for instance together with their "student-advisor", choose for one field of specialization.*

IUS agrees to introduce fields of specializations in the fourth year at the Bachelor program.

The specialization is going to be obtained through the following packages of the Program elective courses:

1. Power systems
2. Communication engineering
3. Electronics

Each package will contain a number of relevant courses. It shall be required for a student to take five program elective courses from a single package. For example, the following packages may be defined:

**Power systems**

Power Systems EE322  
Electromagnetism II EE332  
High Voltage Engineering EE423  
Electrical Power Transmission and Distribution EE424  
Digital Signal Processing EE431  
Programmable Logic Controllers EE436  
digital power system protection EE429  
Control Drive EE430  
Power Electronics EE414

**Communication engineering**

Computer Networks CS408  
Computer Vision CS414  
Wireless and Mobile Networks CS422  
Communication Networks CS425  
Computer and Network Security CS427  
Electromagnetism II EE332  
Information and Coding Theory EE334  
Digital Signal Processing EE431  
Wireless and Mobile Communications EE432  
Microwave Engineering EE433  
Digital Communications EE434



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Optimal Filtering EE439  
Antennas and Wave Propagation EE442  
Satellite Systems and Communications EE446

**Electronics**

Advanced Logic Design CS309  
Advanced Computer Architecture CS401  
Electromagnetism II EE332  
Industrial Process Instrumentation EE403  
Digital Signal Processing EE431  
Microprocessors I EE435  
Programmable Logic Controllers EE436  
Microprocessors II EE440

The procedure to choose a specialization will be further defined.

**Condition 4**

Issue an appropriate number of ECTS-credits (e.g. 6 ECTS-credits) for the internship.

The IUS has already made revision in a proposed way and its implementation will commence in AY 2016-2017.

**Master programme: "Electrical and Electronics Engineering"**

**Condition 1**

All offered Master courses (electives and compulsories) must be regularly available on a yearly basis.  
IUS agrees that offered master courses (electives and compulsories) shall be regularly available on a yearly basis.

**Action:** In order to comply with this, IUS EEE Programme will hire three additional PhD holders.



## Condition 2

Adjust the distribution-ratio between theoretic-lessons and practical-lessons in all courses to level that fulfils the requirement of the specific course (a 3-to-2-ratio is not always useful).

IUS agrees that distribution ratio between the theoretic lessons and practical lessons should be adjusted and the EEE program will work on this.

## Condition 3

Introduce fields of specialization (e.g. communication engineering, power systems, electronics and microelectronics, and automation engineering) for clustering the electives in the Master programme. Each field of specialization shall comprise a variety of elective-courses. The individual students shall, for instance together with their "student-advisor", choose for one field of specialization.

IUS agrees to introduce fields of specializations in the fourth year at the Bachelor program. The specialization is going to be obtained through the following packages of the Program elective courses:

1. Power systems
2. Communication engineering

## 2 Standard 2: Staff

*Standard 2 is met without conditions.*

## 3 Standard 3: Quality Assurance

*Standard 3 is met without conditions.*

## 4 Standard 4: Funding and infrastructure

*Standard 4 is met without conditions.*

## 5 Standard 5: Research and development and appreciation of the arts

*Standard 5 is met without conditions.*

## 6 Standard 6: National and international cooperation

*Standard 5 is met without conditions.*

## Recommendations of the panel and opinion of IUS with further actions

### Bachelor programme

Standard	Recommendations	IUS opinion and further actions
Standard 1 - Study programme and programme management	Although research and teaching is coupled to an appropriate extent, this should be improved in the future by enhancing the research activities via more granted projects and higher extend of directly funded industrial projects.	IUS agrees with this recommendation. Bachelor thesis projects will be directly related to the current research at the IUS. Every semester professors will offer projects that will include all students in the research.
	The 1st year university-course "Freshman-English" should be renamed according to the applied teaching-standard ("Advanced English").	IUS proposes that 1st year university-course "Freshman-English" is renamed into "English Language" or similar.
	Introduce quality assurance-measures ensuring formal scientific requirements (structure of the work, literature citations, correct use of abbreviations, footnotes) of scientific works (e.g. BA theses). This can be done, for instance, with appropriate templates.	IUS is currently working on preparation of thesis templates in both, MS Word and the Latex.
	Organize the student-advisors in institutional level in order to cope with the increasing number of students.	IUS shall systematically cope with this issue using student information system (SIS) in addition to academic adviser.
	Developing a more standardized process of the selection, support, and assessment of internships can be beneficial when the number of BA-students arises.	Since the internship is credited course the IUS agrees that much more attention shall be paid to the quality and standardization of the internship. In order to support this recommendation, the IUS will establish an office for internship and career development.
Standard 2 - Staff	Increase the international in/out mobility of staff.	IUS totally agrees that international mobility staff shall be increased. The IUS's IRO already works intensively on the ERASMUS+ exchange program. In addition, the EEE staff is involved in writing research projects with other research institutions which will contribute to the staff mobility.
Standard 3 - Quality assurance	Ensure evolvement and effective enhancement of the university as well as of the faculties and study programmes, the QA office staff should be increased adequately. The QA office should compile	IUS agrees with this recommendation and according to the existing staffing plan shall hire additional staff.



Standard	Recommendations	IUS opinion and further actions
	a condensed plan from the actions and measures defined and agreed by the different bodies and committees. This plan should include completion dates for each task and the progress should be regularly reviewed as well as finally the effectivity.	
	Referring to what was already stated and recommended in Section 1.3, it would be important to put into practice the plans described above to officially publishing guidelines and templates with next academic year to improve the quality of Bachelor theses.	IUS agrees to officially publish guidelines and templates with the next academic year.
	Set target for the expected survey participation rate, reflect why survey participation is low, and take actions to increase the student participation.	QA Office will set the expected survey participation rate, reflect why survey participation is low, and take actions to increase the student participation rate.
Standard 4 - Funding and infrastructure		
Standard 5 - Research and development and appreciation of the arts		
Standard 6 - National and international co-operations	Provide more institutionalized and coordinated support for junior research personnel to establish lasting cooperation with European Universities.	According to the IUS Strategic plan 2016-2020, the IUS will provide an adequate finance and also, the IUS will allow time for junior researchers to conduct compulsory research in other research environments.
	The IUS, the particular study programme, should strive for more systematized cooperation agreements with European universities, in order to underline being a hub between east and west.	IUS agrees with this recommendation and will open an appropriate office for this issue.

## Master programme

Standard	Recommendations	IUS opinion and further actions
Standard 1 - Study programme and programme management	Although research and teaching is coupled to an appropriate extent, this should be improved in the future by enhancing the research activities via more granted projects and higher extend of directly funded industrial projects.	IUS agrees with this recommendation. Bachelor thesis projects will be directly related to the current research at the IUS. Every semester professors will offer projects that will include all students in the research.
	Introduce quality assurance-measures ensuring formal scientific requirements (structure of the work, literature citations, correct use of abbreviations, footnotes) of scientific works (e.g. MA theses). This can be done, for instance, with appropriate templates.	IUS is currently working on preparation of thesis templates in both, MS Word and the Latec.
	Formulate conditions for students who want to change their field of specialization from the Bachelor programme to the Master programme.	This proposal will be discussed on the level of the management and decided accordingly in line with the existing legal framework.
	Clarify in the "Study Rules for the First and Second Study Cycle" that in the case when students with a 180 ECTS-credits Bachelor apply for IUS's 60 ECTS-credits Master in Electrical and Electronics Engineering, enrolment-conditions will be stated.	The IUS's Legal Office will be asked to consider this recommendation and come up with the suggested clarification.
Standard 2 - Staff	Increase the international in/out mobility of staff.	IUS fully agrees that international mobility staff shall be increased. The IUS's IRO already works intensively on the ERASMUS+ exchange program. In addition, the EEE staff is involved in writing research projects with other research institutions.
Standard 3 - Quality assurance	Ensure evolvement and effective enhancement of the university as well as of the faculties and study programmes, the QA office staff should be increased adequately. The QA office should compile a condensed plan from the actions and measures defined and agreed by the different bodies and committees. This plan should include completion dates for each task and the progress should be regularly reviewed as well as finally the effectivity.	IUS agrees with this recommendation and according to the existing staffing plan shall hire additional staff.

