ASIIN Seal & European Labels

Accreditation Report

Bachelor and Master Degree Programmes
Electrical and Electronic Engineering
Biomedical Engineering

Provided by
North East University (North Cyprus)

Version: 30.06.2017

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
B.A. Electrical and Electronic Engineering	--	ASIIN, EUR-ACE® Label	n/a	02
M.A. Electrical and Electronic Engineering	--	ASIIN, EUR-ACE® Label	n/a	02
B.A. Biomedical Engineering	--	ASIIN, EUR-ACE® Label	n/a	02, 10
M.A. Biomedical Engineering	--	ASIIN, EUR-ACE® Label	n/a	02, 10
Date of the contract: 20.11.2014 **Submission of the final version of the self-assessment report:** 10.08.2015 **Date of the onsite visit:** 14./15.10.2015 **at:** Nicosia / Lefkoşa				
Peer panel: Dr.-Ing. Diedrich Baumgarten, formerly Volkswagen Group; Prof. Dr. Madhukar Chandra, Technical University of Chemnitz; Emre Gök, Bachelor student at GIRNE American University, North Cyprus; Prof. Dr. rer.nat. Dietrich Holz, University of Applied Sciences Koblenz; Prof. Dr. rer. nat. Hans-Joachim Wagner, University of Tuebingen.				
Representative of the ASIIN headquarter: Dr. Siegfried Hermes				
Responsible decision-making committee: Accreditation Commission for Degree Pro-				

[1] ASIIN Seal for degree programmes; EUR-ACE® Label: European Label for Engineering Programmes

[2] TC: Technical Committee for the following subject areas: TC 02 – Electrical Engineering/Information Technology), TC 10 – Life Sciences.

grammes	
Criteria used: European Standards and Guidelines as of 15.05.2015 ASIIN General Criteria as of 28.03.2014 Subject-Specific Criteria of Technical Committee 02 – Electrical Engineering and Information Technology as of 09.12.2011	

In order to facilitate the legibility of this document, only masculine noun forms will be used hereinafter. Any gender-specific terms used in this document apply to both women and men.

B Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Electrical and Electronic Engineering	B.Sc.	- Electric Power Systems - Telecommunications - Control Systems	6	Full time	n/a	8 Semester	243 ECTS / 139 cp	Fall and Spring semesters / September 1991
Electrical and Electronic Engineering	M.Sc.	n/a	7	Full time	n/a	4 Semester	126 ECTS / 21 cp	Fall and Spring semesters / September 1991
Biomedical Engineering	B.Sc.	n/a	6	Full time	n/a	8 Semester	243 ECTS / 152 cp	Fall and Spring semesters / June 2008
Biomedical Engineering	M.Sc.	n/a	7	Full time	n/a	4 Semester	120 ECTS / 21 cp	Fall and Spring semesters / June 2008

According to the self assessment report (SAR), the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Electrical and Electronic Engineering (also available on the Internet):

1. Ability to apply Mathematics, Science, and engineering knowledge to understand electrical engineering related events

2. Ability to design and conduct experiments, and computer simulations, and be able to analyse data.

3. Ability to design electrical and electronic devices and products.

4. Ability to work with multi-disciplinary engineering sciences.

5. Ability to identify and solve problems using technical literature for research tasks and system design.

[3] EQF = The European Qualifications Framework for lifelong learning

6. Be able to understand professional and ethical responsibilities, and standards of engineering practice.

7. Be able to understand the effect of engineering in a global, economic, environmental, and societal setting.

8. Be able to use engineering techniques, skills, and tools for practice and product development.

The following **curriculum** is presented:

1 (1st Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
CHEM 101	General Chemistry	4	6	Compulsory	E
COM 131	Computer Programming	3	5	Compulsory	E
ENG 101	English I	3	4	Compulsory	E
MAT 101	Calculus I	4	6	Compulsory	E
PHY 101	General Physics I	4	6	Compulsory	E
TUR 100	Turkish For Foreign students	-	1	Compulsory	S
		18	28		

2 (2nd Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
MAT 112	Linear Algebra	3	6	Compulsory	BB
TDE 102	Tech. Drawing & Electrical App.	3	5	Compulsory	E
ENG 102	English II	3	6	Compulsory	DC
MAT 102	Calculus II	4	6	Compulsory	E
PHY 102	General Physics II	4	6	Compulsory	E
EE 100	Introduction to Electrical Engineering	1	3	Compulsory	E
		18	32		

3 (3rd Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
EE 201	Circuit Theory I	4	5	Compulsory	E
EE 210	Computer Applications	3	6	Compulsory	BA
EE 241	Electrical Materials	3	4	Compulsory	CC
ENG 210	English Communication Skills	3	6	Compulsory	DC
MAT 201	Differential Equations	4	6	Compulsory	E
FRE 101	French Language	3	6	Elective	AA
		17	33		

4 (4th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
EE 202	Circuit Theory II	4	5	Compulsory	E
EE 216	Electromagnetic Theory	3	5	Compulsory	E
EE 220	Electrical Measurements	3	5	Compulsory	E
EE 222	Electronics I	4	6	Compulsory	E
MAT 241	Complex Calculus	3	5	Compulsory	DC
EE 200	Summer Training I	-	2	Compulsory	S
		20	28		

5 (5th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
EE 315	Logic Circuit Design	3	6	Compulsory	E
EE 321	Electronics II	4	6	Compulsory	E
EE 331	Electromechanical Energy Conv I	4	5	Compulsory	BA
EE 341	Signals And Systems	4	7	Compulsory	E
MAT 350	Probability And Random Variables	3	6	Compulsory	E
		18	30		

6 (6th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
EE 302	Microprocessors	4	6	Compulsory	E
EE 324	Linear Control Systems	3	5	Compulsory	E
EE 346	Communication Systems	4	6	Compulsory	E
MAT 301	Numerical Analysis	3	6	Compulsory	E
EE 332	Electromechanical Energy Conv II	3	5	Compulsory	AA
EE 300	Summer Training II	-	2	Compulsory	S
		17	30		

7 (7th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
EE 420	Neural Networks	3	6	Elective	CC
ECON 431	Engineering Economy	3	4	Compulsory	E
EE 475	High Voltage Techniques I	3	6	Elective	CB
EE 427	Infotmation Theory And Coding Theory	3	6	Elective	CB
EE 437	Cryptography And Coding Theory	3	6	Elective	BB
		15	28		

8 (8th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
EE 400	Graduation Project	4	10	Compulsory	AA
EE 471	Power Systems Analysis I	3	6	Elective	CC
EE 461	Digital Signal Processing	3	6	Elective	E
EE 469	Electromag.Wave Propag & Antennas	3	6	Elective	E
EE 463	Image Processing	3	6	Elective	BA
		16	34		

TOTAL CREDITS 139 - TOTAL ECTS 243

RESTRICTED ELECTIVE (RE) COURSES

ECON431 Engineering Economy

MAN 402 Management for Engineers

TECHNICAL ELECTIVE (TE) COURSES

	Telecommunication Major	**Credits**	**Prerequisite**
EE469	Electromagnetic Wave Propagation and Antennas	3	EE346
EE411	Telecommmunications	3	EE346
EE412	Radar Systems	3	EE341, MAT350
EE416	Computer Networking	3	EE341
EE430	Wireless and Personnel Commmunications Systems	3	EE346
EE461	Digital Signal Processing	3	EE341
EE463	Image Processing	3	EE341
EE425	Satellite Commmunication Systems	3	EE346
EE427	Information Theory and Coding	3	EE341, MAT350
EE428	Commmunication Electronics	3	EE346
EE429	Mobile Commmunication Systems	3	EE346
EE469	Electromagnetic Wave Propagation and Antennas	3	EE346
	Control Major		
EE420	Neural Networks	3	EE210
EE424	Process Control Instrumentation Technology	3	EE324
EE435	Mechatronics	3	EE324
EE451	Digital Electronics	3	EE315
EE454	Digital Control Systems	3	EE324
EE457	Robotic Systems	3	EE324
EE470	Programmable Logic Controllers	3	EE315
	Power Major		
EE433	Power Electronics	3	EE321, EE331
EE471	Power System Analysis I	3	EE331
EE472	Power System Analysis II	3	EE471
EE473	Power System Protection	3	EE471
EE474	Static Power Conversion	3	EE433
EE475	High Voltage Techniques I	3	*
EE476	High Voltage Techniques II	3	EE476
EE478	Distribution System Techniques	3	EE471
EE492	Illumination Engineering	3	EE331

* Consent of the instructor

According to the self assessment report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Master degree programme Electrical and Electronic Engineering (also available on the Internet):

1. Ability to apply fundamental knowledge of Science and Electrical Engineering.

2. Ability to identify, formulate and solve complex electrical engineering problems.

3. Ability to design and conduct experiments related to Electrical Engineering, as well as to analyse and interpret data.

4. Be able to design a complex system, component, or process to meet desired needs within realistic constraints.

5. Be able to develop solutions that meet the desired needs within the economic, manufacturing and sustainability borders.

6. Be able to use the techniques, skills, and modern engineering tools necessary for electrical engineering practice and research.

7. Be able to function and communicate effectively in multidisciplinary teams.

The following **curriculum** is presented:

First Year

First Year, Fall Semester (9/9 credits, 30/30 ECTS)				
Course Code	**Course Name**	**Credit**	**ECTS**	**Prerequisite**
EE 5xx	Elective Course	3	10	Graduate Standing
EE 5xx	Elective Course	3	10	Graduate Standing
EE 5xx	Elective Course	3	10	Graduate Standing

First Year, Spring Semester (9/18 credits, 30/60 ECTS)				
Course Code	**Course Name**	**Credit**	**ECTS**	**Prerequisite**
EE 5xx	Elective Course	3	10	Graduate Standing
EE 5xx	Elective Course	3	10	Graduate Standing
EE 5xx	Elective Course	3	10	Graduate Standing

Second Year

Second Year, Fall Semester (3/21 credits, 10/70 ECTS)				
Course Code	**Course Name**	**Credit**	**ECTS**	**Prerequisite**
EE 5xx	Elective Course	3	10	Graduate Standing

Second Year, Spring Semester (0/21 credits, 56/126 ECTS)				
Course Code	**Course Name**	**Credit**	**ECTS**	**Prerequisite**
EE 500	Master's Thesis	-	50	**
EE 535	Master's Seminar	-	6	***

** Research leading to M.Sc. thesis, carried out between the student and a faculty member. Students register to this course in the semesters the research is in progress. Student can register to this course starting after the second semester.

*** M.Sc. students present a topic, under the guidance of a faculty member, to a group of students and faculty members. Presentation must reflect the preliminary results of student's research work or a literature survey on a topic assigned by the instructor. Student performance is evaluated according to the style of presentation and depth of understanding. At the time of seminar, student must be registered to the course EE 500, master's thesis.

ELECTIVE COURSES

EE 501 – Linear System Theory
EE 502 – Random Variables and Stochastic Processes
EE 503 – Advanced Digital Signal Processing
EE 504 – Wireless and Personal Communication System
EE 505 – Information Theory and Coding
EE 506 – Advanced Data Communications
EE 507 – Computer Networks and Internet
EE 508 – Artificial Neural Networks
EE 509 – Speech Processing
EE 510 – Image Processing
EE 511 – Artificial Inteligence
EE 512 – Electromagnetic Wave Propagation
EE 513 – Operation and Maintenance of Power Systems
EE 514 – Radar Systems
EE 515 – VLSI Design
EE 516 – Integrated Sensors and Sensing Systems
EE 517 – Process Control Instrumentation Technology
EE 518 – Optimal and Adaptive Control
EE 519 – Fuzzy Systems
EE 520 – Optimization
EE 521 – Estimation Theory
EE 522 – Intelligent Control
EE 523 – Robotics Systems
EE 524 – Advanced Static Power Conversion
EE 525 – Theory and Design of Electrical Machines
EE 526 – Power Electronics
EE 527 – Advanced High Voltage Techniques
EE 528 – Advanced Symmetrical Components and Rotating Field Theory
EE 529 – Data Communication and Networking
EE 530 – Mechatronics
EE 531 – Flexible AC Transmission Systems
EE 532 – Pattern Recognition
EE 533 – Electricity Outages and Load Management
EE 538 – Telecommunication Networks
EE 540 – Expert Systems
EE 541 – Advanced Symmetrical Components and Rotating Field Theory
EE 572 – HighVoltage Insulation Coordination

According to the self assessment report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Biomedical Engineering (also available on the Internet):

1. Apply knowledge of Mathematics, Natural Science [and Engineering] with relevance to Life Science and the multidisciplinary context of Engineering Science.

2. Analyse, design and conduct experiments, as well as to analyse and interpret data.

3. Design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.

4. Function on multidisciplinary teams.

5. [Undertake] design work, by using simulation, modelling and tests and integration in a problem solving oriented way.

6. Display an understanding of professional and ethical responsibility.

7. Communicate effectively, being aware of the non-technical effects of engineering.

8. Search technical literature and other information sources.

9. Recognise the need for, and an ability to engage in life-long learning.

10. Exhibit knowledge of contemporary issues.

11. Use the techniques, skills and modern engineering tools necessary for engineering practice to develop marketable products for the global market.

The following **curriculum** is presented:

1 (1st Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
CHEM101	General Chemistry	4	6	Compulsory	AA
MAT101	Calculus I	4	6	Compulsory	AA
PHY101	General Physics I	4	6	Compulsory	AA
ENG101	English I	3	5	Compulsory	AA
BME101	Intro. To Biomedical Engineering	3	5	Compulsory	AA
AIT 101	Ata. Principles& History of Turk Rev.	0	2	Compulsory	S
		18	30		

2 (2nd Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
BME102	Biochemistry	3	5	Compulsory	AA
MAT102	Calculus II	4	6	Compulsory	AA
PHY102	General Physics II	4	6	Compulsory	BB
MAT112	Linear Algebra	3	5	Compulsory	CC
ENG102	English II	3	5	Compulsory	AA
BME110	Medical English	3	5	Compulsory	AA
		20	32		

3 (3rd Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
BME202	Biomaterials	3	5	Compulsory	AA
MAT201	Differential Equations	4	6	Compulsory	AA
EE207	Electric Circuits	4	6	Compulsory	AA
ENG210	English Communication Skills	3	5	Compulsory	AA
COM141	Intro. To Programming	4	6	Compulsory	BB
FRE101	French Language I	3	5	Elective	AA
		21	33		

4 (4th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
BME260	Electromagnetic Theories	3	5	Compulsory	AA
BME210	Anatomy & Physiology	4	6	Compulsory	BB
EE208	Basic Electronics	4	6	Compulsory	AA
BME250	Biostatistics	3	5	Compulsory	AA
COM211	Digital Logic Processes	4	6	Compulsory	BA
GER101	German Language I	3	5	Elective	AA
BME200	Internship I	0	4	Compulsory	S
		21	37		

5 (5th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
COM301	Microprocessors	4	6	Compulsory	BB
BME301	Biomedical Sensors	4	6	Compulsory	AA
BME310	Biomedical Electronics	3	5	Compulsory	AA
EE341	Signals & Systems	4	6	Compulsory	AA
BME311	Biomedical Instrumentation I	4	6	Compulsory	BA
BME320	Biomechanics	3	5	Compulsory	BA
		22	34		

6 (6th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
BME340	Modelling Biological Systems	3	5	Compulsory	AA
BME350	Radiology Physics	3	5	Compulsory	BA
BME303	Biomedical Imaging	4	6	Compulsory	BA
BME312	Biomedical Instrumentation II	4	6	Compulsory	AA
BME321	Artificial Organs	3	5	Compulsory	AA
BME300	Internship II	0	4	Compulsory	S
		17	31		

7 (7th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
BME400	Graduation Project	3	11	Compulsory	AA
BME452	Biomedical Signal Processing	3	5	T. Elective	AA
BME445	Hospital Management & Docum.	3	5	T..Elective	AA
BME401	Instrumental Analysis	3	5	T. Elective	AA
BME435	Introduction to Bioinformatics	3	5	Compulsory	AA
ECON431	Economics For Engineers	3	5	E. Elective	AA
		18	36		

8 (8th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
BME402	Graduation Projects II	3	11	Compulsory	AA
COM451	Artificial Intelligence	3	5	T. Elective	AA
BME455	Sterilization Methods & Technics	3	5	T: Elective	BA
BM495	Telemedicine	3	5	T. Elective	BA
BME433	Medical Biology	3	5	T. Elective	AA
		15	31		

According to the self assessment report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Master degree programme Biomedical Engineering (also accessible on the Internet):

1. Apply the rules of scientific research and ethics,

2. Discuss complex biomedical engineering issues as well as own research results comprehensively and in the context of current international research and present these in writing and orally,

3. Solve problems by system[-related] analytical thinking both in subject specific and interdisciplinary concepts,

4. Combine specialised knowledge of various component disciplines,

5. Carry out independent scientific work and organise (capacity of teamwork), conduct and lead more complex projects,

6. Assess the social and environment-related effects of their actions.

The following **curriculum** is presented:

EDUCATION PLAN OF THE MASTER PROGRAM

BIOMEDICAL ENGINEERING EDUCATION PLAN OF MASTER PROGRAMME						
Course Code	Course Title	T	A	C	ECTS	Compulsory/ Elective
BME500	Thesis	0	0	0	40	Compulsory
BME543	Tissue Engineering	3	0	3	10	Elective
BME507	Advance Biomedical Signal Processing	3	0	3	10	Elective
BME505	Advance Image Processing	3	0	3	10	Elective
BME503	Advance Bioinformatics	3	0	3	10	Elective
BME510	Biomaterials for Medical Diagnosis and Therapy	3	0	3	10	Elective
BME512	Advance Artificial Organs	3	0	3	10	Elective
BME591	Advance Biomedical Instrumentation	3	0	3	10	Elective
BME502	Biomedical Seminars	0	0	0	10	Compulsory
BME504	Advance Biomechanics	3	0	3	10	Elective
BME580	Advance Artificial Neural Networks	3	0	3	10	Elective
BME590	Modelling of Complex Biological Systems	3	0	3	10	Elective
BME511	Magnetic Resonance Imaging	3	0	3	10	Elective

BME520	Clinical Engineering	3	0	3	10	Elective
BME520	Advance Biostatistics	3	0	3	10	Compulsory
BME570	Adv. Electromagnetic & Medical Applications	3	0	3	10	Elective
BME518	Ultrasound Imaging and Doppler Techniques	3	0	3	10	Elective
BME555	Biomedical Micro and Nano Systems	3	0	3	10	Elective
BME535	Adv. Microcontroller Systems	3	0	3	10	Elective
BME532	Pattern Recognition	3	0	3	10	Elective
BME560	Adv. Biomechanical Cardiovascular Systems	3	0	3	10	Elective
BME562	Biomedical Research Methods	3	0	3	10	Compulsory
MAT501	Advanced and Applied Mathematics	3	0	3	10	Elective
BME536	Machine Vision	3	0	3	10	Elective
BME505	Information Theory & Coding	3	0	3	10	Elective

STUDY PLAN OF THE MASTER OF SCIENCE DEGREE PROGRAM

Master of Science degree program of the Biomedical Engineering Department is design to prepare graduates for biomedial engineering careers in both industry and academia by helping them to develop expertise and mastery of knowledge in their fields and enhance their ability to develop and apply associated Technologies to biomedical problems.

CORE COURSES OF THE MASTER OF SCIENCE

1- BME500 Thesis
2- BME502 Seminars in Biomedical Engineering
3- BME562 Biomedical Research Methods
4- BME520 Advance Biostatistics

MS1M Elective Courses

1- BME501 Biomedical Instrumentations
2- BME511 Magnetic Resonance Imaging
3- BME520 Clinical Engineering
4- BME570 Advance Electromagnetic & Medical Applications
5- BME518 Ultrasound Imaging and Doppler Techniques
6- BME535 Advance Microcontroller Systems
7- MAT501 Advance and Applied Mathematics

MS2M Elective Courses

1- BME543 Advance Tissue Engineering
2- BME510 Biomaterials for Medical Diagnosis and Therapy
3- BME512 Advance Artifical Organs
4- BME504 Advance Biomechanics
5- BME555 Biomedical Micro and Nano Systems
6- BME560 Advance Biomechanical Cardiovascular Systems

MS3M Elective Courses

1- BME507 Advance Biomedical Signal Processing
2- BME505 Advance Image Processing
3- BME503 Advance Bioinformatics
4- BME580 Advance Artificial Neural Networks
5- BME590 Modelling of Complex Biological Systems
6- BME532 Pattern Recognition
7- BME536 Machine Vision
8- BME505 Information Theory and Coding

C Peer Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, content & implementation

Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)

Evidence:

- Learning objectives of the degree programmes are published on the homepage of the university; available at: http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-electrical-and-electronic-engineering/degree-program/ (B.A./M.A. Electrical and Electronic Engineering); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/degree-program/ (B.A. Biomedical Engineering); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/master-phd-programme/learning-outcomes-of-the-department-of-biomedical-engineering-msc-degree-program/ (M.A. Biomedical Engineering) (Download: 22.10.2015)
- Module Learning Outcome Matrices for the Electrical Engineering as well as the Biomedical Engineering programmes (Appendix A for the Electrical Engineering programmes; Appendices A and B in case of the Biomedical Engineering programmes)
- Diploma Supplement for each of the degree programmes
- Learning objectives according to the SAR

Preliminary assessment and analysis of the peers:

The university, or in their respective responsibility the Department of Electrical and Electronic Engineering and the Department of Biomedical Engineering, have defined learning objectives for the different degree programmes which, broadly speaking, define discipline-specific qualification profiles on the level sought. Their more generic approach notwithstanding, these learning outcomes do contain an idea of the competences graduates

[4] This part of the report applies also for the assessment for the European subject-specific labels. After the conclusion of the procedure, the stated requirements and/or recommendations and the deadlines are equally valid for the ASIIN seal as well as for the sought subject-specific label.

should have acquired after completion of the programme. They include general as well as subject-related learning objectives.

The *overall learning objectives* of both the Bachelor and the Master programmes are primarily aiming at social and communications skills, team competences, the display of professional and ethical responsibility and the ability to work under varying economic, environmental, cultural and social conditions. The peers strongly agree with the programme coordinators in that they consider it important to endow students with such a mind-set of non-technical competences, since their professional success will largely be dependent on them.

As to the *subject-specific qualifications*, the generic manner of the competence description reflects to a large extent the broad Electrical Engineering or Biomedical Engineering education in the respective Bachelor programme. A more generic approach to define the programme learning objectives seems also being deliberately pursued with regard to the disciplinary width of the consecutive Master programmes. The fact that there are recommended tracks of specialisation for the Electrical and Electronic Engineering Bachelor programme (Electric Power Systems, Telecommunications and Control Systems) and - more tentatively or implicitly - for the Master programmes (see below chapter 1.3) does not interfere with this assumption, since the impression still prevails that the qualification profiles of graduates are primarily aimed to satisfy the demands of the industry and the job market instead of a narrow concentration on highly specialized research abilities.

Otherwise, the more generic approach in defining the relevant qualifications profile for the respective degree programme makes it more difficult to match the programme learning objectives with those laid down in the respective ASIIN Subject-Specific Criteria (SSC)[5]. This is aggravated by the fact that the Module Learning Outcome Matrices, which have been provided in the SAR, unfortunately do not refer specifically to the related SSC. It is therefore necessary to firstly relate the stated learning outcomes of each programme to a corresponding part of the relevant SSC in order to allow for an assessment whether equivalent learning objectives have been defined at all (see the following table):

[5] For all programmes: SSC of Technical Committee 02 – Electrical Engineering and Information Technology; for the Biomedical Engineering programmes additionally: SSC of the Technical Committee 10 – Life Sciences.

Table 1: Learning outcomes of the programmes in comparison to the relevant SSC 02

Degree Programmes / SSC fields of competence	Bachelor programmes	Ma programmes
Knowledge and understanding	B.A. EEE: 1. Ability to apply Mathematics, Science, and Engineering knowledge to understand Electrical Engineering related events B.A. BME: 1. Apply knowledge of Mathematics, Natural Science [and Engineering] with relevance to Life Science and multidisciplinary context of Engineering Science.	M.A. EEE: 1. Ability to apply fundamental knowledge of science and electrical engineering. M.A. BME: 4. Combine specialised knowledge of various component disciplines.
Engineering analysis	B.A. EEE: 5. Ability to identify and solve problems using technical literature for research tasks and system design. B.A. BME: 2. Analyse, design and conduct experiments, as well as to analyze and interpret data. 5. [Undertake] design work by using simulation, modelling and tests and integration in a problem solving oriented way.	M.A. EEE: 2. Ability to identify, formulate and solve complex electrical engineering problems. M.A. BME: 3. Solve problems by system[-related] analytical thinking both in subject specific and interdisciplinary concepts.
Engineering design	B.A. EEE: 2. Ability to design and conduct experiments, and computer simulations, and be able to analyze data. 3. Ability to design electric and electronic devices and products. B.A. BME: 3. Design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability. 5. [Undertake] design work, by using simulation, modelling and tests and integration in a problem solving oriented way.	M.A. EEE: 3. Ability to design and conduct experiments related to Electrical Engineering, as well as to analyze and interpret data. 4. Be able to design a complex system, component, or process to meet desired needs within realistic constraints. M.A. BME: 3. Solve problems by system[-related] analytical thinking both in subject specific and interdisciplinary concepts. 4. Combine specialised knowledge of various component disciplines.
Investigations and assessment	B.A. EEE: 5. Ability to identify and solve problems using technical literature for research tasks and system design. B.A. BME: 8. Search technical literature and other information sources.	M.A. EEE: 6. Be able to use the techniques, skills, and modern engineering tools necessary for Electrical Engineering practice and research. M.A. BME: 1. Apply the rules of scientific research and ethics. 2. Discuss complex Biomedical Engineering issues as well as own research results comprehensively and in the context of current international research and present these in writing and orally. 5. Carry out independent scientific

		work [...].
Engineering practice and product development	B.A. EEE: 8. Be able to use engineering techniques, skills, and tools for practice and product development. B.A. BME: 11. Use the techniques, skills and modern engineering tools necessary for engineering practice to develop marketable products for the global market.	M.A. EEE: 5. Be able to develop solutions that meet the desired needs within the economic, manufacturing and sustainability borders. M.A. BME: 3. Solve problems by systems analytical thinking both in subject specific and interdisciplinary concepts.
Transferable skills	B.A. EEE: 4. Ability to work with multi-disciplinary engineering sciences. 6. Be able to understand professional, ethical responsibilities and standards of engineering practice. 7. Be able to understand the effect of engineering in a global, economic, environmental, and societal setting. B.A. BME: 4. Function on multidisciplinary teams. 6. Display an understanding of professional and ethical responsibility. 7. Communicate effectively aware of the non-technical effects of engineering. 9. Recognize of the need for, and an ability to engage in life-long learning. 10. Exhibit knowledge of contemporary issues.	M.A. EEE: 7. Be able to function and communicate effectively in multidisciplinary teams. M.A. BME: 5. [...] organise (capacity of teamwork), conduct and lead more complex projects. 6. To assess the social and environment-related effects of their actions.

It can be easily seen that all qualifications profiles have been drafted in a rather generic manner and barely fit into all relevant competence fields of the SSC 02. Otherwise, it should be noted - especially with regard to the Master programme Biomedical Engineering whose learning objectives are, overall, least programme-specific - that the university has specified these competence profiles by describing future professional areas of graduates' activities. The specification for the Master programme Biomedical Engineering, in particular, reads as follows:

"Biomedical Engineering is an interdisciplinary field of study, which is a combination of fields such as Engineering, Medicine, Material Science, Basic Sciences and Veterinary Medicine. This interdisciplinary knowledge is applied to solve problems in medical diagnosis and therapy. Biomedical Engineers work within the field of research & design, production, maintenance / repair and calibration activities of medical devices, and the life support systems. They also organize and manage health service units located in various institutions. Producing innovative approaches to design high-tech medical devices, methods for measurements of physiological development medical data / signal, image process-

ing and analysis, development of artificial organs are among the responsibilities of Biomedical Engineers."[6] Thus, in case of the Biomedical Engineering programmes, the more universal learning objectives of the programmes have been closely linked with a professional attribution which, taken together, satisfactorily clarifies the qualification profile of the graduates. In essence, the same counts for the Electrical Engineering programmes.

Furthermore, the matching table along with the Departments' Module Learning Outcomes Matrices give a full picture for an assessment of whether the intended learning outcomes are equivalent to those of the SSC and how they shall be acquired in the respective curriculum. All in all, the peers consider this matching fitting for the programmes under review (see below Criterion 1.3).

It can also be concluded from the available information that stakeholders within the university (such as the departments of Medicine and Veterinary Medicine with a view to the Biomedical Engineering programmes) as well cooperating companies, hospitals, etc. are at least informally involved in the further development of the scope and content of the degree programmes. Plans to systematically register student employment perspectives could be a suitable tool to identify whether the quality objectives of the programme fit market demands or need to be adjusted accordingly. Peers encourage the departments to intensify the stakeholder participation in the quality assurance framework.

Criterion 1.2 Name of the degree programme

Evidence:

- Formal specifications given in the SAR, see above section B.
- Learning objectives of the degree programmes are published on the homepage of the university; download from: http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-electrical-and-electronic-engineering/degree-program/ (B.A./M.A. Electrical and Electronic Engineering); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/degree-program/ (B.A. Biomedical Engineering); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/master-phd-programme/learning-outcomes-of-the-department-of-biomedical-engineering-msc-degree-program/ (M.A. Biomedical Engineering) (Download: 22.10.2015)

[6] For citation cf. http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/master-phd-programme/learning-outcomes-of-the-department-of-biomedical-engineering-msc-degree-program/ (Download: 22.10.2015)

- Programme-specific Diploma Supplements

Preliminary assessment and analysis of the peers:
The names of the degree programmes match up well with the intended learning outcomes and the curricular content. In particular, the English programme titles reflect the main course language.

Criterion 1.3 Curriculum

Evidence:

- Curricula for the Bachelor and the Master programmes Electrical and Electronic Engineering and Biomedical Engineering; see above section B
- Undergraduate programmes study plan; download from: http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-electrical-and-electronic-engineering/courses/ (B.A. EEE); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/courses/ (B.A. BME); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/master-phd-programme/biomedical-engineering-master-of-science-with-thesis/
- Module learning outcomes matrices (Appendix A, Bachelor and Master Electrical and Electronic Engineering; Appendix A + B, Bachelor and Master Biomedical Engineering)
- Module handbook (Appendix A, Bachelor and Master Electrical and Electronic Engineering; Appendix M + N, Bachelor and Master Biomedical Engineering)
- Audit discussions

Preliminary assessment and analysis of the peers:
In principle, the university is offering well-structured consecutive degree programmes in Electrical Engineering and Biomedical Engineering. The Bachelor programmes could be characterized as covering a broad array of disciplinary fields each, thus, in general, giving preference to educational width as opposed to disciplinary immersion. This appears to be valuable with regard to the professional perspectives of graduates in highly volatile engineering job markets. Additionally, a sound engineering education in the Bachelor programmes provides a good disciplinary basis for an extension of studies on the master level. The curricula of the Master programmes, though at first sight left largely to the

choice of the students, in fact offer a variety of structured specialisation tracks. This could be more clearly followed in the case of the Master Biomedical Engineering where individual study plans on the common basis of three compulsory courses (*Advance Biomedical Signal Processing*, *Biomedical Seminars* and *Biomedical Research Methods*) need to be set up along the lines of three groups of electives, broadly referring to Biomedical Instrumentation, Biomaterials and Tissue Engineering or Bioinformatics respectively. Although designed more openly, the curriculum of the Master Electrical and Electronic Engineering leaves room for similar specialisation tracks, the more so if electives are deliberately chosen as an immersion of a slight specialisation in the Bachelor programme (Power Systems, Telecommunications or Control Systems; as to that see also chapter 2.1). Of course, the structure of study planning is more implicit in this case and not communicated explicitly. Insofar, coordinators in the first place seem to count on the students' academic experience and self-reliance. On request, they indicate to also advise students in a recommended direction. However, it might be stated more clearly that an immersion of one of the Bachelor's specialisation paths is always an option in the Master programme Electrical and Electronic Engineering, thereby not necessarily waiving the general openness of the curriculum. This could be done, for instance, by designing exemplary study plans for those specialisation paths, but catalogues of electives along the lines of preferred specialisation paths might also do. Anyway, structure and content of the degree programmes under review – with the said small reservation for the Master programme Electrical and Electronic Engineering – are judged as convincing.

This assessment is also instructive regarding the achievement of the intended learning objectives. As has been stated in chapter 1.1, with the additional information of the matching table delivered there, one can recognize that the core learning objectives (Knowledge and Understanding, Engineering Analysis, Engineering Design, Engineering Practice and Product Development, Investigations and Assessment (Master only), Transferable Skills) are reflected by and large in the qualifications profiles of the degree programmes. In addition, the Module Learning Outcomes Matrices of the departments (see respective Appendices in the SAR) show how the overall study and learning objectives have been systematically substantiated on the course level.

The module prerequisites in the Bachelor programmes seem to underline the consistency of the curriculum design, since inherently sequential modules are generally not scheduled in the same term. Rather, modules are lined up according to their content-related dependency. Otherwise, it appears that prerequisites are understood very strictly meaning that the respective modules need to be passed in order to proceed to the module based on them. This might cause unintentional extensions of the students' study period, but on request programme coordinators, lecturers and students unanimously considered those

prerequisites necessary elements of a teaching and learning system aiming at sustainable learning achievements. Moreover, the audit discussions brought to light that student-friendly opportunities for re-sits and make-up exams contribute to avoiding an unwanted prolongation of studies. Thus, there is no need for further action regarding this criterion.

Module coordinators have put great effort in defining differentiated learning objectives on the module level and plausibly deriving their respective contribution to the course objectives. This is very laudable indeed, since, in principle, it allows every student at the end of the module, not only to check whether the intended learning outcomes have been actually met, but also to trace the contribution of module learning outcomes to the overall learning objectives of the programme. It is the accuracy claimed for defining and matching the learning outcomes at different levels in each module description, which reveals the often generic formulation of learning outcomes and, following that, a more or less uneven alignment to the programme learning objectives (see, for instance, the modules *Advanced Digital Signal Processing*, *Wireless and Personal Communication Systems*, and *Information Theory and Coding*). This result does apply more so for the Master than the Bachelor programmes, and, again, more for the Electrical and Electronic Engineering programmes than for the Biomedical Engineering programmes. However, it is a general weakness of the module descriptions spurring the need for a revision in this respect.

It has been understood but could not be verified comprehensively that all study materials such as curricula or module descriptions or relevant regulations are already available for students on the internet. Instead, it has been found that, for instance, a study plan for the Master programme Electrical and Electronic Engineering is missing, as are the module descriptions and relevant regulations for the Electrical Engineering programmes (at least on the website of the Department of Electrical and Electronic Engineering). Also, module descriptions of the Bachelor programme Biomedical Engineering are not traceable on the internet, whereas only some course descriptions of the Master programme Biomedical Engineering seem to be accessible. Considering this, it should be ensured that all study-related documents are available to students, in particular the module descriptions. Since module descriptions are generally considered not only an important working tool for students but also a major information source for applicants, it is advisable to make them accessible on the internet, not just on a restricted electronic platform like the intranet.

In principle, study plans as well as module descriptions at least partly are not available on the internet for all degree programmes, as far as can be judged from an internet search. As this might be accommodated in the process of updating the university's internet presence, it shall only be brought to the attention of the programme coordinators here.

Criterion 1.4 Admission requirements

Evidence:

- Related chapter in each SAR
- Admission Requirements for Undergraduate Programmes and Application Form (Appendix D, SAR Electrical Engineering programmes; Appendix F, Biomedical Engineering programmes)
- Admission rules for Postgraduate Studies within the "Academic Regulations for Postgraduate Studies" (Appendix P, SAR Biomedical Engineering programmes)
- Table of yearly intake (Appendix C, SAR Electrical and Electronic Engineering, Tables 15 and 16 SAR Biomedical Engineering)
- Audit discussions

Preliminary assessment and analysis of the peers:

Concerning the Bachelor degree programmes, the admission rules generally show the departments' reliance on Entrance Exam resp. Local Exam scores of the different applicant groups (Turkish Nationals, Turkish Republic of North Cyprus Nationals, other nationals). This, in combination with a mandatory English Proficiency Test, seems to work as a reliable indicator of applicants' qualification to commence an Electrical Engineering or Biomedical Engineering Bachelor programme. Additionally, it should be positively noted that the university has put in place a mechanism to improve the English language skills of applicants who fail the English test (English Preparatory School).

With regard to the Master degree programmes, the Near East University again lays stress on the applicants' academic success in the undergraduate and/or Master programme in combination with a so-called Academic Personnel and Graduate Study Entrance Examination (ALES) score of a specified level. Additionally, as in the Bachelor programmes' case, the applicants must also demonstrate their foreign language proficiency. The mandatory proof of adequate English language skills is, of course, an adequate condition for admission to degree programmes that are generally taught in English. Although there are no discipline-related admission requirements for the Master programmes, it is important that applications are particularly considered with a view to those subject-specific qualifications applicants are supposed to have before commencing a Master programme. Thus, an examining committee set up by the Graduate School of Applied Sciences Administrative Board shall ensure that applicants from other universities or with a Bachelor Degree from a field other than that of the Master programme applied for, are equipped with additional knowledge and competences, if needed (i.e. through admission to the Academic

Preparation Programme, see Article 4 of the "Academic Regulations for Postgraduate Studies"). Referring to this provision, it has been observed that the cited regulation does not explicitly name the Graduate School of Applied Sciences and thus the Faculty of Engineering in the relevant Article 2 (terms and abbreviations). It is assumed that the university will amend the list accordingly. Considering an overall feasible student workload, it is equally important that a maximum of two undergraduate courses may be taken (on the condition that the courses have not been passed during the undergraduate programme; see Article 18 of the "Academic Regulations for Postgraduate Studies").

Applications of Bachelor graduates from other universities as well as of graduates with a Bachelor degree not pertinent to the requested Master programme are explicitly covered by the regulation. It is assumed, though apparently not yet formally regulated, that this procedure does also apply in the event of applicants pursuing one of the mentioned specialisation tracks in the Master programmes. And it also seems reasonable that applicant graduates of the *corresponding* Bachelor programmes of Near East University who lack certain subject-specific competences are treated similarly. Since these cases are not formally mentioned in the article cited above, peers would appreciate additional information on the matter.

In the context of the admission system of the university, the summer school turns out to play an important role, in particular for the integration of so-called transfer students. It is deemed commendable that the augmenting courses offered at the Summer School provide opportunities for transfer students to catch up with subject-specific requirements their admission might depend on.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 1:

The peers consider this criterion *not properly fulfilled yet*. In sum, this conclusion has not been altered by the comments and additional information provided by the university which, nevertheless, has been well received for its constructive manner.

The peers are grateful for the programme-oriented specification of learning objectives of the Biomedical Engineering programmes. These at least slightly contribute to a further clarification of the intended qualification profile of each programme which has been found rather generic (particularly in the case of the Master's programme), though satisfactorily specified in the module descriptions and in the overall study concept. The revised learning objectives should be made available for the relevant stakeholders (i.e. students and lecturers) and publicly communicated accordingly. The peers concluded that

this should be referred to in an additional requirement for the Biomedical Engineering programmes (see below, chapter F, requirement 7).

The peers are thankful for the additional information concerning the admission procedure with respect to applicants who lack certain discipline-related pre-requisites. Essentially, the statement of the coordinators seems to confirm the peers' assumption that the mentioned groups of applicants could be admitted principally - depending on the nature and extent of the missing pre-requisites, and provided that these students successfully pass the assigned courses. The peers explicitly support the announcement of the programme coordinators that these guiding admission principles will be included into the regulations, both on paper and on the internet. Since this modification has not yet been implemented, they proposed a requirement to this end (see below, chapter F, requirement 9).

As has been argued in the preliminary assessment, it might be worthwhile to more transparently communicate the opportunity to deepen the specialisation path followed in the Bachelor programme Electrical and Electronic Engineering in the respective Master programme - the principally broader scope of the programme notwithstanding. The peers acknowledge the constructive approach of the coordinators and, at the same time, confirm a related recommendation for the Master programme Electrical and Electronic Engineering (see below, chapter F, recommendation 6).

Furthermore, the peers consider it necessary to further develop the description and subject-related precision of the learning outcomes of the individual modules, in particular regarding the consistency with the learning objectives at programme level (see below, chapter F, requirement 2).

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Learning objectives of the degree programmes; available at: http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-electrical-and-electronic-engineering/degree-program/ (B.A./M.A. Electrical and Electronic Engineering); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/degree-program/ (B.A. Biomedical Engineering); http://neu.edu.tr/academic/faculties/faculty-of-

engineering/departments/department-of-biomedical-engineering/master-phd-programme/learning-outcomes-of-the-department-of-biomedical-engineering-msc-degree-program/ (M.A. Biomedical Engineering) (Download: 22.10.2015)

- Module Learning Outcome Matrices for the Electrical Engineering as well as the Biomedical Engineering programmes (Appendix A, SAR Electrical Engineering programmes; Appendices A and B, SAR Biomedical Engineering programmes)
- Curricula for the Bachelor and the Master programmes Electrical and Electronic Engineering and Biomedical Engineering; see above section B
- Undergraduate programmes study plan; download from: http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-electrical-and-electronic-engineering/courses/ (B.A. EEE); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/courses/ (B.A. BME); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/master-phd-programme/biomedical-engineering-master-of-science-with-thesis/ (M.A. BME) (Download: 27.10.2015)
- Module handbook (Appendix A, Bachelor and Master Electrical and Electronic Engineering; Appendix M + N, Bachelor and Master Biomedical Engineering)
- Summer Training Application Form and "Summer Practice Guide" (Appendix H SAR Electrical and Electronic Engineering); Summer Training Acceptance Form and "Summer practice Guideline for Department of Biomedical Engineering" (Appendix H SAR Biomedical Engineering)
- List of Internship placements (Appendix E, SAR Biomedical Engineering)
- Academic Regulations for Postgraduate Studies (Appendix P, SAR Biomedical Engineering, Article 6 [Admission through Transfer]
- "Ordinance of Transfer Regulations at BA and Associate Levels Near East University"; available at: http://neu.edu.tr/administration/regulations/undergraduate-transfer/ (Download: 27.10.2015)
- "Regulation of Student Admission Affairs"; available at: http://neu.edu.tr/administration/regulations/regulation-of-student-admission-affairs/ (Download: 27.10.2015)
- Audit discussions

Preliminary assessment and analysis of the peers:

Modularity: The curricula of the programmes have been duly divided into modules, each consisting of plausible teaching and learning units in terms of disciplinary content and intended learning outcomes. As has been pointed out previously, the disciplinary structure of the programmes regarding composition and sequencing of modules has in general been found convincing. This, not least, results from the fact that modules are, as a rule, completed in one semester and do not stretch across two or more semesters. Moreover, consecutiveness of modules in the Bachelor programmes is comprehensibly demonstrated in the net of prerequisites spanning the study course, as referred to in chapter 1.3.

Individual focus / working practice / student mobility: It is noticed that both the Bachelor and the Master programmes offer students the chance to opt for an individual focus in their course of study. Thus, the course plan for the last study year of the Bachelor programmes largely consists of ("restricted" respectively "technical") electives, thus leaving students with the opportunity to specialise to a certain degree in disciplinary areas of their choice. That way, students of the Bachelor programme Electrical and Electronic Engineering are supposed to opt for one out of three specialisation tracks (Telecommunications, Electric Power Systems, or Control Systems). By contrast, the course plan for the last study year of the Bachelor programme Biomedical Engineering requires students to complete, besides the graduation projects, three mandatory modules (*Instrumental Analysis*, *Biomedical Signal Processing* in the seventh semester, *Bioinformatics* in the eighth semester). Furthermore, no explicit specialisation paths are recommended in the Biomedical Engineering Bachelor programme - as opposed to the Electrical and Electronic Engineering programme. Nevertheless, meaningful choices of elective courses with regard to the individual qualification profile are plausibly guaranteed, since the elective courses are deliberately agreed upon beforehand by the student and the department.

So, at first glance, it might be easier for Bachelor students in Electrical Engineering to transfer to another university because they are not forced to complete compulsory modules in the final study phase. On the other hand, despite of the mentioned mandatory modules in the last study year, the chance of moving to another university is facilitated in the Bachelor programme Biomedical Engineering as well. As to the Master programmes, it could be argued that the design of the curricula of both programmes offer the opportunity to decide in favour of a specialisation without a prescription to that end. It is fairly reasonable that students could either follow one of the curricular tracks offered or, with counselling of the advisor, freely compile their individual study plan. Accordingly, it is positively noted that in case of the Biomedical Engineering Master programme, they are already given support in scheduling their study course through module catalogues compil-

ing the electives broadly along the lines of specialised disciplinary areas (Biomedical Instrumentation, Biomaterials and Tissue Engineering or Bioinformatics).

Actually, this appears to apply for the Electrical and Electronic Engineering Master programme as well, but is still not formally fixed and communicated to students here. Consequently, there is only one long list of electives students are alluded to. In effect, graduates of the respective Bachelor programme willing to continue their studies in the Master programme can follow up their chosen specialisation (Telecommunications, Electric Power Systems, Control systems), without being forced to do so. It would make good sense to communicate this possibility to students in an appropriate manner. In particular, this might be complemented with an indication that opting for a certain specialisation track in the Master programme is by no means mandatory and may be substituted by the free selection of technical electives. Obviously, this alternative is substantially supported through an academic advisor assigned to each student. The discussion with students who generally feel adequately informed about the elective courses and possible specialisation paths confirmed this judgement.

Internet search reveals that the study-relevant documents published on the Internet by the departments differ significantly, being evidently more comprehensive on the side of the Biomedical Engineering department. In particular, no study plan of the Master programme Electrical and Electronic Engineering could yet be found. In principal, it is desirable to provide students with all necessary information on the Internet; the study plans for all degree programmes of the departments should be available in any case.

The Bachelor and the Master programmes under review evidently reflect a strong practical focus. By far the most modules do contain laboratory sessions and laboratory work as compulsory parts. Additionally, the curriculum of each Bachelor programme requires students to participate in a “summer training” (B.A. Electrical and Electronic Engineering, 40 working days) or an “internship”/”summer practice” (B.A. Biomedical Engineering, 60 working days). In principle, this is regarded as a well-suited instrument to give students valuable insights into the operational conditions of companies or relevant professional institutions. It is also an appropriate means when it comes to students making effective use of their theoretical knowledge in order to cope with practical engineering tasks under actual working conditions. Taking into account the guidelines governing the “Summer Training”/”Internship”, the departments obviously assume full responsibility for the quality assurance of these mandatory parts of the curriculum. Students are supervised by an advisor/coordinator of the respective department and, additionally, are obliged to submit a report summarizing their activities, experiences and observations during the practical training. Laboratory sessions in the course of conducting project work as well as Master Thesis topics do, in principal, confirm the weight of practical aspects and applications in

the Master programmes too. Despite overall approval, students would appreciate to acquire practical competences even more adapted to the relevant job market. This might be due to the narrow and specified scope of the laboratorial experiments/projects and the relatively limited practical experiences during the Internship/Summer training in the Bachelor programmes. Since this suggestion is considered significant with respect to the intended programme objective of qualifying students for the job market, peers recommended it accordingly.

Rules for recognition of academic achievements/competences: Generally, the university has put into force provisions for student transfer and mobility. Referring to incoming students or students transferring within the university, these are, in principle, aiming at academic achievements acquired within the university or at other higher education institutions. Thus far, they are roughly in accordance with ASIIN requirements and chapter III of the Lisbon Convention. Considering the strategic plan to further internationalize the university and its degree programmes though, it is suggested to incorporate more clearly the idea of competence orientation in the framework of regulations for the recognition of externally acquired competences.

Criterion 2.2 Work load and credits

Evidence:

- Total number of ECTS/national credit points awarded; see above section B
- Study plans; see above section B
- Module handbook (Appendix A, Bachelor and Master Electrical and Electronic Engineering; Appendix M + N, Bachelor and Master Biomedical Engineering)
- Undergraduate programmes study plan; available at: http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-electrical-and-electronic-engineering/courses/ (B.A. EEE); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/courses/ (B.A. BME); http://neu.edu.tr/academic/faculties/faculty-of-engineering/departments/department-of-biomedical-engineering/master-phd-programme/biomedical-engineering-master-of-science-with-thesis/ (M.A. BME) (Download: 27.10.2015)
- "Academic Regulations for Undergraduate Studies" (Articles 4 [Credit value] and 5 [Course Load]); "Academic Regulations for Postgraduate Studies" (Article 2m) [Credit System]]
- Audit discussions

Preliminary assessment and analysis of the peers:
It can be stated that the ASIIN-criteria for the award of credits following the European Credit Transfer System (ECTS) are largely met. Thereby, it has to be considered that the national credit point system in use actually refers to lecture hours and time spent on practical sessions[7], thus excluding the periods of student self-study. Following that, different total sums of ECTS credit points despite identical national credit point numbers and vice versa have been plausibly explained through methodically calculating student workload on an individual module basis. Consequently, there is no conversion factor fixed beforehand, which seems to be quite reasonable to the peers, the more so since the detailed workload schedule is specified in each module description. Thus, the allocation of ECTS credits to the lectures, practical sessions and self-study periods of the modules has been found plausible and, moreover, particularly valuable. However, this conversion of national credit points into ECTS credit points is done solely within the module descriptions, but not transparently described in detail anywhere else. It would be appreciated if the principles of converting national credit points into the ECTS system were transparently communicated (in the Diploma Supplement, for instance) in order to clarify how the students' workload is assessed.

Since the matching of the two systems and the mutual conversion is a comparatively new experience for the departments, the allocation of ECTS points has not yet been checked against the students' actual workload. Therefore, the university is strongly advised to put into place a mechanism to verify whether the estimated workload matches the actual workload of the students. It remains to be seen in the course of the re-accreditation procedure whether this process is effective in terms of adapting the credit point allocation or the content of modules, if necessary.

In this respect, the Bachelor programme Biomedical Engineering may be a good proof. Looking at the somewhat uneven workload of students in the later phase of the curriculum, which has been for the most part attributed to inevitable subject-specific post-qualification (Mathematics, Programming, Biochemistry), it will be of great importance to observe the actual workload of students and its effects in the second half of the curriculum. Since the students describe their workload during this study period as high but doable, no immediate action appears to be necessary in this respect.

[7] "[In] the National credit system […] one hour of theoretical course or two hours of practicum is equal to one credit or the system of awarding credits for courses, practicums and other educational activities according to the European Credit Transfer System (ECTS) scale." (see Graduate Education Regulations, Article 2 m)).

As to the Master programmes, the workload of students in the final semester (40 ECTS resp. 50 ECTS) appears to be considerably high. On request, the coordinators pointed out that students are allowed to commence with their Master thesis in the third semester meaning that their actual workload in the final term is reasonably lower. Study plans, of course, should reflect the actual workload. Thus, the factual completion period of the Master thesis should also provide the basis for the workload distribution per semester.

Remarkably, ECTS credit points allotted to the Summer Training units, particularly in the Bachelor Electrical and Electronic Engineering,[8] barely reflect the actual workload of students. On request, programme coordinators conceded the mismatch, but also announced to accommodate the ECTS numbers suitably. The peers acknowledge that, in principle, the additional workload of students during the compulsory summer training units has been taken note of, even if it is inadequately represented in the credit point allocation at present. An adaption of the ECTS credit points awarded in accordance with the actual student workload should be sought in the medium term so as to get a more adequate grasp of the students' workload in the respective study terms. However, students anyway did not complain about workload peaks caused by the summer training units which leads peers to the conclusion that no immediate action is necessary.

Specifications in the assessment and workload columns of the module descriptions of both Bachelor and Master programmes appear to be inconsistent. Thus, for instance, assessment methods indicated in the learning outcomes table do not occur in the Assessment Table or are not considered accordingly in the subsequent Workload Calculation Table. The module descriptions should be checked with a view to these inconsistencies and adapted, if necessary.

While talking with students, peers received the overall impression that the latter did not have a precise understanding of the ECTS. Since students were used to the national credit point system, it is suggested to intensify the information on the ECTS, in particular with regard to its accentuation of the students' workload. This appears to be important, since a realistic calculation of students' workload in the meaning of ECTS is a prerequisite for an adequate allocation of credit points.

Criterion 2.3 Teaching methodology

Evidence:

- Respective chapter in the SAR

[8] Totalling 4 ECTS credit points for 40 working days; in the Biomedical Engineering Bachelor programme the ratio is comparatively much more suitable, totalling 12 ECTS credit points for 60 working days.

- Audit discussions with lecturers and students

Preliminary assessment and analysis of the peers:
Overall, the teaching methods used for implementing the didactical concept are appropriate to support the attainment of the intended learning objectives. Students favourably referred to electronic devices provided by the HEI to support their learning efforts (like multimedia equipment, web technologies, etc.).

In general, a fair ratio of contact hours to self-study time seems to be implemented in the degree programmes contributing to the achievement of the defined objectives.

Criterion 2.4 Support and assistance

Evidence:

- Respective chapter in the SAR
- Audit discussions with lecturers and students

Preliminary assessment and analysis of the peers:
Overall, it is viewed very positively that the students' reported not only on an apparently well received system of counselling and advice, but also on a remarkably trusting cooperation between students, their elder fellow-students and the teaching staff.

Yet, students apparently could conceive of improved counselling instruments for failed students and a more effective career advisory and career development through the departments. Acknowledging the already exemplary supportive attitude of the departments and lecturers alike, peers leave these suggestions to the deliberation of the coordinators for furthering the degree programmes.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2:

The requirements of the criterion are *not considered properly met* as yet. All the more, the peers appreciate the constructive comments of the university.

Concerning the Master programme Electrical and Electronic Engineering, they are well aware of the fact that students de facto often choose modules in the curricular direction they wish to specialize in. However, as has been argued before, it might be easier to choose the specialisation path if some of the more convenient and most obvious disciplinary tracks are pointedly offered. The peers appreciate the indication of the programme

coordinators to think about and discuss possibilities to attract students for certain specialisation paths. They choose to encourage this deliberation by means of a related recommendation (see below, chapter F, recommendation 6).

It is positively noted that the programme coordinators are intent to overall strengthen the application-oriented share of the curriculum through adequate measures (inter alia, as apparently planned in the department of Electrical and Electronic Engineering, by a format change in the graduation project). In order to make auditors of the re-accreditation procedure aware this point and, otherwise, to support the progress in this field, the peers confirm a respective preliminary recommendation (see below recommendation 3).

It has already been acknowledged that from the peers' perspective the programme coordinators and teachers of the programme made good use of the ECTS credit point system when converting the national credit point system into ECTS credit points. Nevertheless, the principle behind this conversion should be made transparent to external stakeholders, like possible international or European partner universities or employers. The peers have brought this up in a preliminary requirement which they continue to consider necessary (see below, chapter F, requirement 3).

The announcement of the programme coordinators to adopt appropriate tools to monitor the actual workload of students is laudable. The peers strongly support this idea and would like to have auditors of the re-accreditation procedure have a close look on this monitoring process and its related feedback loops regarding the allocation of credit points or the revision of module content (see below, chapter F, recommendation 1).

The actual student workload for the thesis in the Master programmes that obviously spans over two semesters should be made transparent per semester. The programme coordinators' willingness to do so is appreciated. Unless there is further evidence for this, the peers endorse a preliminary requirement to this end (see below, chapter F, requirement 8).

3. Exams: System, concept and organisation

Criterion 3 Exams: System, concept and organisation

Evidence:

- Module handbook (Appendix A, Bachelor and Master Electrical and Electronic Engineering; Appendix M + N, Bachelor and Master Biomedical Engineering) [Information about assessment methods]

- "Academic Regulations for Undergraduate Studies"; available at: http://neu.edu.tr/administration/regulations/academic-regulations-for-undergraduate-studies/ (Download: 27.10.2015); "Graduate Education Regulations", available at: http://neu.edu.tr/administration/regulations/graduate-education-regulations/ (Download: 27.10.2015)
- "Re-sit Exam Procedure" resp. "Resit Examination Rules and Regulations" (Appendix L, SAR Electrical and Electronic Engineering programmes; Appendix K, SAR Biomedical Engineering programmes)
- "Principles of Summer School"; available at: http://neu.edu.tr/administration/regulations/principles-of-summer-school/ (Download: 27.10.2015)
- "Master Thesis Guidelines of Graduate School of Applied Sciences"; (see Appendix W, SAR Biomedical Engineering programmes); also available at: http://neu.edu.tr/wp-content/uploads/2015/10/thesis-guidelines-eng.pdf (Download: 27.10.2015)
- On-site-inspection of exemplary written examinations, lecture scripts, graduation projects and Master theses
- Audit discussions

Preliminary assessment and analysis of the peers:
The concept of examination encompasses a mix of mid-term examinations, final examinations and subject-specific assignments. These assessment instruments plausibly allow for a close monitoring of the students' learning progress and encourage students' learning throughout the semester. By way of helping students to consciously assess their actual state of knowledge, the assessment procedure at the same time contributes to an adequate exam preparation. Students' general assent to this close monitoring system which is accompanied by a comparatively large number of exams, tests, quizzes, assignments etc. comes as no surprise from that point of view.

As to the assessment form, it can be observed that mid-term exams as well as final exams are generally taken in the form of written assessments. Oral examinations do occur in the form of presentations (in the course of project works, for instance) and, in particular, as part of the graduation project / Master thesis. Most notably, this assessment method is best suited to prove whether students are able to approach an engineering task in a professional work situation under time pressure. Peers therefore strongly support the coordinators and lecturers in adopting a fair ratio of oral assessments so as to provide students with the means of acquiring this essential competence.

As already said, the capstone research units include oral presentations to ensure that students have the skills to discuss problems in their specialist area and communicate their solutions verbally. Though differing in range[9] these capstone projects on the Bachelor and on the Master level are principally aiming at the student's ability to carry out an assigned task independently and at the academic level sought. Notwithstanding the fact that the graduation projects in the Bachelor programmes are conducted as group works on a regular basis, it is satisfactorily confirmed that each student is assigned an individual engineering task, supervised by an individual advisor and assessed individually.

The selection of final projects and exam papers has all in all been found fitting to the expected level of first cycle and second cycle programmes, respectively, but with a significant reservation. The graduation projects presented for both Bachelor programmes, although awarded with best grades, did not meet the peers' expectations in a Bachelor graduation work. They have been found overrated as compared to the relevant scientific standards. Causes for this finding could hardly be identified in the duration, size, formal demands, or supporting procedures of the graduation projects which, on the contrary, seem to fit well and are, after all, consonant with the overall good impression of the quality of the programmes. Peers intensively discussed this somewhat vexing and disappointing result regarding the level of the Graduation projects. Since the sample of the Master theses, in general, were considered convincing as compared to quality standards, the peers concluded that the intended learning outcomes of the programmes are achievable. Thus, low performances in the presented Bachelor graduation projects may be considered the result of a reinforcing circle with (perhaps) less demanding assessment criteria on the one side and, consequently, underperforming students on the other. It appears to be problematic to address this somewhat blurred field of deficiency with a bold but inevitably randomly targeting demand. Peers came to the conclusion that, in a certain sense, the graduation projects rather need to evolve into what they actually already are in terms of range, size, formal demands, and supporting procedures. Raising the academic standards of the graduation projects in the short or medium term would be an important outcome in either case.

The peers noticed the fact that in case of the Master programmes the Graduate School of Applied Sciences - which comprises the Master branch of the two departments - generally offers variants *with* and *without* a thesis, the latter requiring a so-called term project instead. It can be seen from the website of the Biomedical department that the two models

[9] One graduation project counting for 10 ECTS credits and the Master thesis with 50 ECTS credits in the Electrical and Electronic Engineering programmes; two graduation projects awarded altogether 24 ECTS credit points and a Master thesis counting 40 ECTS credits in case of the Biomedical Engineering programmes.

of the Biomedical Engineering Master programme are offered. This is inferred to apply for the Electrical and Electronic Engineering Master programme as well, although the department's website does not prove that positively (due to a comparatively less informative internet presence, in particular with respect to the Master programme). Generally speaking, the offering of Master programmes without a thesis, in particular for applicants interested in a degree indicating a strictly profession-oriented course structure (including a term project instead of a thesis), does make good sense. Otherwise, it should be clear from the outset that *Master programmes without a thesis* do not comply with the ASIIN criteria requiring a thesis in order to prove whether a comprehensive understanding of a subject-specific field of knowledge has been achieved and successfully demonstrated in an individual work at the set level. Thus, although gaining the peers' recognition and principal support, the prospect of Master programmes without a thesis for a specific applicant group cannot be subject to the accreditation process and is explicitly excluded from the peers' assessment. A positive accreditation decision for the Master programmes, consequently, would be restricted to the version *with thesis* and the university would have to communicate this unmistakably.

The organisation of the exams, in principle, guarantees examinations that accompany study and avoids causing extensions to the period of study. The relevant rules for examination and evaluation criteria are transparently put into a legal framework, as both students and lecturers confirm in the audit discussions. The date and time of the exams are announced in due time in the Academic calendar of the university. Possibilities to re-sit exams, though closely regulated, are considered adequate in terms of a study progression without undue delay - thereby taking note of the students' assent to this judgement. Here again, as has been observed previously, the Summer School - being basically conceived and used as a third semester - plays an important part and leaves students who have failed a module in the foregoing semester with the opportunity to retake the examination promptly.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 3:

The criterion is considered *largely fulfilled*.

Still, the level and standards of the Bachelor graduation projects have left a poor impression – as is argued at length in this section of the report. The peers very much appreciate that the programme coordinators apparently took their critical judgment in this respect as a connecting factor for developing a short and medium term strategy in raising the standards and level of the graduation projects. On a first glance, this concept sounds good and might perhaps contribute effectively to achieving the intended aims. Thus, it might

have its share not only in raising the scientific standards (short term) of the graduation project but also enlarge its practical relevance regarding the demands of highly volatile job markets. This notwithstanding, the peers are concerned that, along with the project design components, the group-related aspects of the graduation projects might grow more meaningful, while at the same time weakening the concept of a Bachelor Thesis as an *individual* capstone project. Therefore, the peers not only repeat their recommendation to further the academic level and standards of the graduation projects (see below, chapter F, recommendation 5). Rather, they propose supplementing this recommendation with a requirement aiming at elaborating on the proposed concept on short term with a special focus on the individual student's proven ability to carry out an assigned engineering task independently (see below, chapter F, requirement 5).

The peers take note of the departments' explicit declaration that there is no application for accreditation of the respective Master degree variants *without thesis*, and that there does not even exist one in the case of the department of Electrical and Electronic Engineering.

4. Resources

Criterion 4.1 Staff

Evidence:

- Respective chapter of the two SAR
- Respective Staff Handbook
- Regulations for Appointment and Rising as an Academic Member
- Audit discussions

Preliminary assessment and analysis of the peers:

Overall, the professional and teaching experience as well as the academic background of the teaching staff is well fitting with regard to achieving the learning objectives of the degree programmes under review. But, whereas the number of staff in the Electrical and Electronic Engineering Department, in principal, seems to be sufficient to assure the quality of the programmes in terms of operational reliability, teaching capacity and student/teaching staff ratio, as well as staff resources in the Biomedical Engineering department are evidently constrained with respect to its teaching and supervising activities. Considering this situation, it is of great importance that coordinators of the Biomedical

Engineering programmes could generally rely on the support of disciplinary experts from other departments and faculties, although on an almost informal basis.

Most obviously, this is the case with teaching staff from the Faculty of Medicine who are indispensable concerning the teaching units related to chemical, biochemical, biological or medical issues. This cooperation is crucial for any success in the Biomedical Engineering programmes and therefore highly appreciated by the peers. Otherwise one has to bear in mind that the Medical Faculty and its staff in the first place is obliged to safeguard the academic education of Physicians. The outspoken willingness of the Faculty to also offer teaching units for other departments notwithstanding, the feasibility to provide for the necessary lecturers will always depend on the actual availability with regard to the medical training. And this availability might be exposed to even significant changes over time. For a final assessment of whether the medical lecturers needed for operating the Biomedical Engineering programmes are available throughout the accreditation period, it does not suffice to formally fix such staff exchange on an annual basis. Rather, peers consider it indispensable that the cooperation between the Engineering Faculty and the Faculty of Medicine be formally established in such a manner that scheduled biomedical courses are guaranteed for the whole accreditation period.

It could be seen that the departments are much concerned with the essential role of research activities of the staff members. The measures to implement and further research-friendly working conditions, like, for instance, linking academic progress to proven research success (see following section), are definitely worth supporting. But *conditio sine qua non* for this approach will be that teaching staff is sufficient in number and that professors do have enough time to carry out research work and engage in research projects without accepting a loss of quality in teaching. With a view to that it seems desirable to enhance the staff resources (in particular in the Biomedical Engineering department) in the medium term in order to give room to intensified research activities and thus contribute to the quality development of the degree programmes.

Criterion 4.2 Staff development

Evidence:

- Respective chapter of the two SAR
- Audit discussions with teaching staff

Preliminary assessment and analysis of the peers:
The departments of the Engineering faculty are obviously engaged in developing and training the didactic and professional skills of the teaching staff. And, as far as can be judged from the audit discussions, these offers are made use of.

With its "Regulations for Appointment and Rising as an Academic Member" the university has made the academic career path dependant primarily on research activities but also on teaching activities of its teaching staff. This might work as a valuable incentive for improving the quality of teaching, learning and research as well, provided the staff is sufficient in number, composition and qualification (see previous chapter).

Criterion 4.3 Funds and equipment

Evidence:

- Respective chapter in the two SAR
- Laboratory room sizes and capacities (Appendix P, SAR Electrical and Electronic Engineering programmes)
- Audit discussion

Preliminary assessment and analysis of the peers:
Overall, the departments have convincingly demonstrated in the SAR and also during the on-site inspection of laboratories and other facilities that the physical resources employed form a sustainable basis to achieve the intended learning outcomes by the time the degree is completed. The apparently trusting relationship between the departments and the university management is recognized as a major strength in this regard.

Referring to the university's commitment to an internationalisation strategy largely based on the cooperation in teaching and research and the exchange of students and lecturers, already existing co-operations with other universities and research institutions ought to be continued and developed further. This is going to be particularly important if the departments wish to consolidate and, moreover, boost their research capabilities.

The laboratories the peers had a chance to inspect during their visit at Near East University overall offer a sound basis for the university's teaching and research strategy. In particular, the collaboration between the Biomedical Engineering department and the Medicine / Veterinary Medicine departments in jointly using the medical laboratories is laudable. However, one significant reservation cannot be spared in this connection. The Chemistry and the Physics laboratories have not been found adequately equipped. These laboratory facilities hardly satisfy minimum requirements, so that immediate action

should be taken to upgrade the Chemistry and Physics laboratories, respectively. A conceptual framework indicating how the faculty plans to overcome this shortcoming accompanied by initial steps taken for this purpose should provide for an adequate remedy.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 4:

The peers consider the requirements for the departments' resource basis as *broadly fulfilled*.

But there are still some crucial deficiencies from their point of view. Again, the peers have been impressed by the open-minded and constructive reception of their critical comments by the departments and the programme coordinators respectively. The announced plans to improve the conditions/resources which have been critically addressed in the report are appreciated. However, the peers confirm preliminary stated requirements and recommendations, until these improvements have been verifiably implemented.

Though generally appreciating the explanations concerning the laboratory equipment, the peers still consider it necessary to work on this and provide a more precise concept for upgrading the chemistry and physics laboratories. Along with that, it should also be demonstrated reasonably that initial steps towards its implementation have been taken (see below, chapter F, requirement 1).

With regard to the Biomedical Engineering programmes, it has been argued that the cooperation between the Biomedical Engineering department and the faculty of Medicine needs to be formally established. In this respect, the Biomedical Engineering department's announcement to establish a protocol between the faculties involved may be fruitful. Until further evidence is presented for this, the peers advocate a related requirement (see below, chapter F, requirement 6).

Generally, the peers recommend improving the research basis of the Engineering Faculty by enlarging the staff resources in the middle term, thus contributing to the quality development of the degree programmes (see below, chapter F, recommendation 2).

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:

- Module handbook (Appendix A, Bachelor and Master Electrical and Electronic Engineering; Appendix M + N, Bachelor and Master Biomedical Engineering)

- Audit discussions

Preliminary assessment and analysis of the peers:
The module descriptions have been addressed in a number of places throughout this report. The module descriptions in their present state are considered an important source of information for students. But precisely because of this, the deficiencies they still have give reason for a timely correction.

Besides the shortcomings already mentioned in previous chapters, individual module coordinators should be named throughout the module handbooks and missing module descriptions should be supplemented (Summer Training/Internship, Master Thesis, Master Seminar).

Each updated version of the module handbook then needs to be made available to students and lecturers. In this connection, it is suggested to add a table of contents in order to make the module handbooks more usable.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Diploma Supplements for each Degree Programme with the exception of the Master programme Electrical and Electronic Engineering

Preliminary assessment and analysis of the peers:
Diploma Supplements of the respective degree programmes have been taken note of. As a sample for the Master programme Electrical and Electronic Engineering has not been submitted yet, the responsible department is asked to hand it in later. Apart from that, the Diploma Supplements provide sufficient information with regard to the study objectives and the learning outcomes, the nature, the level, the content and the status of the studies, the success of graduates as well as the composition of the final grade.

However, neither do they include statistical data in addition to the final mark according to the ECTS Users' Guide so as to allow for a categorisation of the individual degree, nor is there any regulation concerning the comparability of the individual degree. Consequently, it might be commendable to adjust the Diploma Supplement accordingly.

Criterion 5.3 Relevant rules

Evidence:

- "Academic Regulations for Undergraduate Studies"; available at: http://neu.edu.tr/administration/regulations/academic-regulations-for-undergraduate-studies/ (Download: 27.10.2015); "Graduate Education Regulations", available at: http://neu.edu.tr/administration/regulations/graduate-education-regulations/ (Download: 27.10.2015)
- "Regulations For Departmental Academic Organization and Operations"; available at: http://neu.edu.tr/administration/regulations/regulations-for-departmental-academic-organization-and-operations/ (Download: 27.10.2015)
- "Regulation of Student Admission Affairs"; available at: http://neu.edu.tr/administration/regulations/regulation-of-student-admission-affairs/ (Download: 27.10.2015)
- "Ordinance of Transfer Regulations at BA and Associate Levels Near East University"; available at: http://neu.edu.tr/administration/regulations/undergraduate-transfer/ (Download: 27.10.2015)

Preliminary assessment and analysis of the peers:

It can be stated that all study-relevant regulations have been made available. These regulations seem to include all the necessary information about the admission, course and completion of the degree.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 5:

The peers consider the criterion *largely fulfilled*. Overall, it is assumed that certain aspects of the documentary basis of the programmes should be improved.

The peers thank the programme coordinators for submitting a sample of the Diploma Supplement for the Master's programme Electrical and Electronic Engineering. As to that, it is regrettable that the study objectives listed therein are not consistent with those objectives the department publicly communicates for the programme. In particular, the learning objectives mentioned here are even more generic than in the version disseminated on the internet, thus not conveying a meaningful competence profile of graduates. Therefore, an additional requirement for all programmes is considered necessary ensuring throughout that consistent programme-specific learning objectives are also integrated in the Diploma Supplement (see below, chapter F, requirement 4).

It is appreciable that some missing module descriptions have been handed in along with the statement of the departments. However, with respect to the intended learning outcomes of the summer training/internship modules, the contribution of these modules to the programmes learning objectives as stated in the respective module description seems to be overrated, at least in some instances. Thus, it is hardly conceivable and not even aimed at in the first place, that an industrial placement in the second study year of the Bachelor programmes (!) should be highly conducive to the "Ability to design and conduct experiments, and computer simulations, and be able to analyze data" or the "Ability to design electric and electronic devices and products". Furthermore, some of the most comprehensive and demanding learning objectives, which one would have expected for the Master Thesis, are stated in the module description for the Master Seminar (both Master programmes). This is especially true with respect to the competence to "carry out an independent study requiring expertise in Electrical and Electronic Engineering". All the more so, since it seems to have been only copy-pasted into the module description of the Master's Seminar of the Biomedical Engineering programme. In addition to that, some specifications of the Master Thesis descriptions (both programmes) seem erroneously incurred from module descriptions of the undergraduate programmes (see, for instance, column Assessment Criteria ("Regulations for Undergraduate Education...")). The peers advised the programme coordinators to carefully revise the said module descriptions according to these observations (see below, chapter F, requirement 2).

It is helpful that the programme coordinators at various occasions committed to revise the module descriptions according to the critical comments in the report. The peers agree with this and confirm a preliminary requirement for that purpose (see below, chapter F, requirement 2).

In the same vein, the departments' commitment to improve the significance of the graduates' final grade according to the ECTS users' guide is welcomed. The auditors propose to address the point in a respective recommendation (see below, chapter F, recommendation 4).

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- Relevant chapter in the two SAR

- Audit discussions

Preliminary assessment and analysis of the peers:
It is considered an important decision for the quality development of the programmes that the Board of Trustees as decision making body of the university has generally assigned the quality assurance policy to the Deans of Faculties' office. Thus, it can be assumed that the issue of quality assurance will be paid raising attention in the strategic orientation of the university and the departments.

It also means that the responsibility for operating the quality management is implemented mostly on faculty level. Yet, no binding regulations concerning quality assurances have been issued to date. Against this background, the efforts of the Departments of Electrical and Electronic Engineering and Biomedical Engineering respectively to institutionalize and further develop quality management procedures and processes of teaching and learning are encouraged.

Reportedly, the quality assurance framework of the departments at present consists of collecting key figures about students like, for instance, intake records, examination records, and graduation records in combination with certain assessment tools[10] and surveys of student satisfaction (i.e. course evaluation). However, the available statistical data lack significance in terms of study progress and study success. Moreover, the presented data give hardly any clue to the conclusions drawn from the data collection and to what end. In the same vein, the peers received the impression that most of the mentioned quality processes have been introduced only recently, and thus are not yet responsive in terms of building a reliable benchmark for substantially checking whether the intended objectives are reasonable, or for identifying any failure in achieving those objectives. To this end, feedback loops still need to be closed, as programme coordinators readily conceded. In particular, the discussion with students brought to light that the results of course evaluations, which seem to be conducted on a regular basis, were not effectively communicated to them and discussed with the lecturers. Students therefore found it difficult to assess whether there were any improvements derived from the evaluation results. Because of their good relations to the teachers and the chance of solving problems directly, students seemed not really worried about this deficiency.

To put it more generally, it can be stated that a systematic and sustainable involvement of relevant stakeholders (students, graduates, employers etc.) in the process of defining and

[10] With regard to items such as completeness and feasibility of syllabuses, lecture attendance of teaching staff, lecture and laboratory attendance of students, functionality and appropriateness of teaching material.

monitoring the quality objectives of the degree programmes, is still being established. Altogether, the auditors advise the HEI to further implement and develop the quality assurance system in terms of closing feedback loops, sustainably and systematically consulting relevant stakeholders (students, teaching staff, and employer) as well as collecting and transparently using student data.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 6:

The actual status of the quality management of the degree programmes *cannot be considered fully convincing*.

The university and the departments have only recently begun to implement what might evolve into a well operating quality assurance mechanism. However, it is positively acknowledged that the departments are well aware of the importance of this issue - as the audit talks and the university's statement on the report have made plainly clear - and, following that, have already put in place or foreseen suitable instruments for this purpose. The peers are supportive of this policy which from their point of view should be continued consequently. Whether the departments do make meaningful use of the results with regard to the quality of the degree programmes should be closely monitored in the course a future re-accreditation of the programmes (see below, chapter F, recommendation 1).

D Additional Documents

For preparing their final assessment, the panel ask that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report:

D 1. Master degree programme EEE: Programme-specific sample of Diploma Supplement

E Comment of the Higher Education Institution (01.12.2015)

The university submitted an extensive commentary on the report of the peers. Additionally it provided

- a programme-specific Diploma Supplement for the Master degree programme Electrical and Electronic Engineering
- Module descriptions for summer training/internship as well as graduation projects in all degree programmes

The learning objectives of the Biomedical Engineering programmes have been revised as follows (red marking):

Table 1: Learning outcomes of the programmes in comparison to the relevant SSC 02

Degree Programmes / SSC fields of competence	Bachelor programmes	Ma programmes
Knowledge and understanding	B.A. EEE: 1. Ability to apply Mathematics, Science, and Engineering knowledge to understand Electrical Engineering related events B.Sc. BME: 1. Apply knowledge of Mathematics, Natural Science and Engineeringwith relevance to Life Science and multidisciplinary context of Engineering Science.	M.A. EEE: 1. Ability to apply fundamental knowledge of science and electrical engineering. M.Sc. BME: 4.Apply interdisciplinary knowledge to solve problems in medical diagnosis and therapy.
Engineering analysis	B.A. EEE: 5. Ability to identify and solve problems using technical literature for research tasks and system design. B.Sc. BME: 2. Analyse, design and conduct experiments, as well as to analyse and interpret data. 5.Design work by using simulation, modelling and tests and integration in a problem solving oriented way.	M.A. EEE: 2. Ability to identify, formulate and solve complex electrical engineering problems. M.Sc. BME: 3. Ability to solve biomedical engineering problems by using biomedical related systems together with analytical thinking.
Engineering design	B.A. EEE: 2. Ability to design and conduct experiments, and computer simulations, and be able to analyse data. 3. Ability to design electric and electronic devices and products. B.Sc. BME: 3. Design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability. 5. Design work, by using simulation, modelling and tests and integration in a biomedical problem solving oriented way.	M.A. EEE: 3. Ability to design and conduct experiments related to Electrical Engineering, as well as to analyse and interpret data. 4. Be able to design a complex system, component, or process to meet desired needs within realistic constraints. M.Sc. BME: 3. Solve biomedical engnineeringproblems by systemanalytical thinking both in subject specific and interdisciplinary concepts. 4. Combine specialised knowledge of various component disciplines.
Investigations and assessment	B.A. EEE: 5. Ability to identify and solve problems using technical literature for research tasks and system design. B.Sc. BME: 8. Search Biomedical related technical literature and other information sources.	M.Sc. EEE: 6. Be able to use the techniques, skills, and modern engineering tools necessary for Electrical Engineering practice and research. M.Sc. BME: 1. Apply the rules of scientific research and ethics to produce innovative biomedical approaches. 2. Discuss complex Biomedical Engineering issues as well as own research results comprehensively and in the context of current international research and present these in writing and orally. 5. Carry out independent scientific work for measurements of physiological development medical data / signal, image processing and analysis.
Engineering practice and product development	B.A. EEE: 8. Be able to use engineering techniques, skills, and tools for practice and product development.	M.A. EEE: 5. Be able to develop solutions that meet the desired needs to organize and manage health service unit. Within the economic, manufacturing and sustainability

	B.Sc. BME: 11. Use the techniques, skills and modern engineering tools necessary for engineering practice to develop marketable products for the global market.	borders. M.Sc. BME: 3. Solve problems by systems analytical thinking both in subject specific and interdisciplinary concepts.
Transferable skills	B.A. EEE: 4. Ability to work with multi-disciplinary engineering sciences. 6. Be able to understand professional, ethical responsibilities and standards of engineering practice. 7. Be able to understand the effect of engineering in a global, economic, environmental, and societal setting. B.Sc. BME: 4. Function on multidisciplinary teams. 6. Display an understanding of professional and ethical responsibility. 7. Communicate effectively aware of the non-technical effects of engineering. 9. Recognize of the need for, and an ability to engage in life-long learning. 10. Exhibit knowledge of contemporary issues.	M.A. EEE: 7. Be able to function and communicate effectively in multidisciplinary teams. **M.A. BME: 5. Producing innovative approaches to organise conduct and lead more high-tech medical devices.** **6. To organize and manage health service units located in various institutions.**

F Summary: Peer recommendations (09.12.2015)

Taking into account the additional information and the comments given by the programme coordinators of Near East University, the peers summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ba Electrical and Electronic Engineering	With requirements for one year	EUR-ACE	30.09.2021
Ma Electrical and Electronic Engineering	With requirements for one year	EUR-ACE	30.09.2021
Ba Biomedical Engineering	With requirements for one year	EUR-ACE	30.09.2021
Ma Biomedical Engineering	With requirements for one year	EUR-ACE	30.09.2021

Requirements

For all degree programmes

A 1. (ASIIN 4.3) A concept for upgrading the chemistry and physics laboratories must be provided and initial steps for its implementation have to be established.

A 2. Update the module descriptions according to the indications in the accreditation report (learning outcomes, consistency of specifications regarding assessment methods and workload allocation, module coordinators/responsible persons, inconsistencies in module descriptions summer training/internship, Master Thesis) and make them accessible to all relevant stakeholders.

A 3. (ASIIN 2.2) The principles of converting national credit points into the ECTS system should be made transparent in order to clarify on which basis the students' workload is assessed (e.g. in the Diploma Supplement).

A 4. (ASIIN 5.2) Make sure that programme-specific learning outcomes - as have been defined and publicly communicated - are included into the Diploma Supplement accordingly.

For the Bachelor programmes

A 5. (ASIIN 3) The proposed concept regarding the quality standards of the Bachelor graduation projects should be further elaborated and submitted. Thereby, the individual student's ability to carry out an assigned engineering task independently should be ensured.

For the Bachelor and the Master degree programme Biomedical Engineering

A 6. (ASIIN 4.1) The cooperation between the Biomedical Engineering department and the Faculty of Medicine needs to be formally established in such manner that the medical courses of the programmes are available throughout the accreditation period.

A 7. (ASIIN 1.1) The revised programme learning objectives should be made available for the relevant stakeholders (students and lecturers) and communicated publicly in a manner that those stakeholders could refer to (for instance in the framework of the internal quality assurance).

For the Master degree programmes

A 8. (ASIIN 2.2) Study plans for the second year should reflect the actual workload of the students.

A 9. (ASIIN 1.4) The admission regulations should be supplemented with respect to applicants lacking subject-related pre-requisites as announced in the statement of the university.

Recommendations

For all degree programmes

E 1. (ASIIN 6) It is recommended to further develop and implement the quality assurance system. Thereby, feedback loops should be closed expediently and effectively. Furthermore, processes of consultation with the relevant stakeholders (students, teaching staff, employers) for the formulation and monitoring of quality objectives should be defined and implemented. The workload of students should be thoroughly monitored in order to enable and execute appropriate measures, if needed. Statistical data on academic progress and dropout rates should be documented and utilized for the further development of the degree programmes.

E 2. (ASIIN 4.1) It is recommended to enhance staff resources in order to facilitate intensified research activities and thus contribute to the quality development of the degree programmes.

E 3. (ASIIN 2.1) It is recommended to strengthen the application-oriented competences of students in order to better prepare them for the relevant job market.

E 4. (ASIIN 5.2) It is recommended that, in addition to the final mark, statistical data according to the ECTS Users' Guide are provided in the Diploma Supplement.

For the Bachelor degree programmes

E 5. (ASIIN 3) It is strongly recommended to further the academic level and standards of the graduation projects.

For the Master degree programme Electrical and Electronic Engineering

E 6. (ASIIN 1.3, 2.1) It is recommended to take appropriate steps to make students aware of main study tracks/paths when choosing the electives, thus ensuring that adequate qualification profiles are achieved individually.

G Comment of the Technical Committees

Technical Committee 02 – Electrical Engineering and Information Technology (27.11.2015)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee agrees with the assessment and proposed resolution of the peers without modification. This, in particular, counts for the combined requirement and recommendation concerning the level of the graduation projects in the Bachelor programmes. Nevertheless the Technical Committee proposes a minor editorial modification to recommendation 5 (graduation projects).

Assessment and analysis for the award of the EUR-ACE® Label:

The Technical Committee deems that the intended learning outcomes of the degree programmes do comply with the engineering specific part of its Subject-Specific Criteria.

The Technical Committee 02 – Electrical Engineering and Information Technology recommends the award of the seals as follows:

Degree Programme	**ASIIN-seal**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Electrical and Electronic Engineering	With requirements for one year	EUR-ACE	30.09.2021
Ma Electrical and Electronic Engineering	With requirements for one year	EUR-ACE	30.09.2021
Ba Biomedical Engineering	With requirements for one year	EUR-ACE	30.09.2021
Ma Biomedical Engineering	With requirements for one year	EUR-ACE	30.09.2021

Proposed modification concerning recommendation 5 for the Bachelor programmes:

E 5. (ASIIN 3) It is strongly recommended to further the academic level of the graduation projects in conformity with international standards.

Technical Committee 10 – Life Sciences (27.11.2015)

The Technical Committee agrees with the assessment and proposed resolution of the peers without modification.

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ba Biomedical Engineering	With requirements for one year	EUR-ACE	30.09.2021
Ma Biomedical Engineering	With requirements for one year	EUR-ACE	30.09.2021

H Decision of the Accreditation Commission (11.12.2015)

Assessment and analysis for the award of the subject-specific ASIIN seal:

The members of the Accreditation Commission for Degree Programmes generally agreed with the analysis and findings of the peer panel. Concerning the former requirement 3 (conversion of national credit point system into the ECTS system), the Commission received the impression that the allocation of ECTS points per module could be judged principally reasonable, while the peers' criticism obviously referred to the transparency of the relevant conversion principles. Since the Commission assumed the latter issue not to be within the realm of the accreditation criteria, it decided to delete this requirement.

Furthermore, the Commission made a couple of minor editorial amendments to the recommendations 2 (resources), 5 (Bachelor graduation projects), and 6 (study paths).

Assessment and analysis for the award of the EUR-ACE® Label:

The Accreditation Commission acknowledged that the intended learning outcomes of the degree programmes comply with the Subject-Specific Criteria of the Technical Committee 02 – Electrical Engineering and Information Technology.

The Accreditation Commission for Degree Programmes decides to award the following seals:

Degree Programme	**ASIIN-seal**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Electrical and Electronic Engineering	With requirements for one year	EUR-ACE	30.09.2021
Ma Electrical and Electronic Engineering	With requirements for one year	EUR-ACE	30.09.2021
Ba Biomedical Engineering	With requirements for one year	EUR-ACE	30.09.2021
Ma Biomedical Engineering	With requirements for one year	EUR-ACE	30.09.2021

Requirements

For all degree programmes

A 1. (ASIIN 4.3) A concept for upgrading the chemistry and physics laboratories must be provided and initial steps for its implementation have to be established.

A 2. (ASIIIN 5.1) Update the module descriptions according to the indications in the accreditation report (learning outcomes, consistency of specifications regarding assessment methods and workload allocation, module coordinators/responsible persons, inconsistencies in module descriptions summer training/internship, Master Thesis) and make them accessible to all relevant stakeholders.

A 3. (ASIIN 5.2) Make sure that programme-specific learning outcomes - as have been defined and publicly communicated - are included into the Diploma Supplement accordingly.

For the Bachelor programmes

A 4. (ASIIN 3) The proposed concept regarding the quality standards of the Bachelor graduation projects should be further elaborated and submitted. Thereby, the individual student's ability to carry out an assigned engineering task independently should be ensured.

For the Bachelor and the Master degree programme Biomedical Engineering

A 5. (ASIIN 4.1) The cooperation between the Biomedical Engineering department and the Faculty of Medicine needs to be formally established in such manner that the medical courses of the programmes are available throughout the accreditation period.

A 6. (ASIIN 1.1) The revised programme learning objectives should be made available for the relevant stakeholders (students and lecturers) and communicated publicly in a manner that those stakeholders could refer to (for instance in the framework of the internal quality assurance).

For the Master degree programmes

A 7. (ASIIN 2.2) Study plans for the second year should reflect the actual workload of the students.

A 8. (ASIIN 1.4) The admission regulations should be supplemented with respect to applicants lacking subject-related pre-requisites as announced in the statement of the university.

Recommendations

For all degree programmes

E 1. (ASIIN 6) It is recommended to further develop and implement the quality assurance system. Thereby, feedback loops should be closed expediently and effectively. Furthermore, processes of consultation with the relevant stakeholders (students, teaching staff, employers) for the formulation and monitoring of quality objectives should be defined and implemented. The workload of students should be thoroughly monitored in order to enable and execute appropriate measures, if needed. Statistical data on academic progress and dropout rates should be documented and utilized for the further development of the degree programmes.

E 2. (ASIIN 4.1) It is recommended to improve staff resources in order to facilitate intensified research activities and thus contribute to the quality development of the degree programmes.

E 3. (ASIIN 2.1) It is recommended to strengthen the application-oriented competences of students in order to better prepare them for the relevant job market.

E 4. (ASIIN 5.2) It is recommended that, in addition to the final mark, statistical data according to the ECTS Users' Guide are provided in the Diploma Supplement.

For the Bachelor degree programmes

E 5. (ASIIN 3) It is strongly recommended to raise the academic level of the graduation projects in conformity with international standards.

For the Master degree programme Electrical and Electronic Engineering

E 6. (ASIIN 1.3, 2.1) It is recommended to take appropriate steps to make students aware of main study tracks/paths when choosing electives, thus ensuring that adequate qualification profiles are achieved individually.

I Fulfilment of Requirements (09.12.2016)

Analysis of the peers and the Technical Committees (November 2016)

Requirements

For all degree programmes

A 1. (ASIIN 4.3) A concept for upgrading the chemistry and physics laboratories must be provided and initial steps for its implementation have to be established.

Erstbehandlung	
Peers	*not fulfilled* Statement: The chemical lab of the Veterinary Faculty has not been inspected during the onsite visit, so there is no way to judge whether the new situation described is any better than what has been seen during the audit. The statement of the university regarding the physics lab is quite general. It would be better to have some specifics in order to form an opinion.
FA 02	*not fulfilled* Statement: The Technical Committee agrees with the assessment of the peers.
FA 10	*not fulfilled* Statement: The Technical Committee agrees with the assessment of the peers.

A 2. (ASIIIN 5.1) Update the module descriptions according to the indications in the accreditation report (learning outcomes, consistency of specifications regarding assessment methods and workload allocation, module coordinators/responsible persons, inconsistencies in module descriptions summer training/internship, Master Thesis) and make them accessible to all relevant stakeholders.

Erstbehandlung	
Peers	fulfilled (BaMa BME) / *not fulfilled (BaMa EEE)* Statement: *For BaMa Biomedical Engineering:* Module descriptions are available in the internet. All in all, the module descriptions have been updated according to the indications given in the accreditation report and the requested information is also available for the students. *For BaMa Electrical and Electronic Engineering:* The contribution of each module to the intended learning outcomes of the programme has been indicated by so-called contribution levels (CL). These contribution levels refer to a set of eight learning outcomes that have been listed in the self assessment report (p. 6) and are also published on the home page of the department. • Issue 1: Modules AIT 101and ENG 101-210 indicate CL to certain intended learning outcomes that are hardly believable (e.g.: How can Turkish history (AIT 101) deliver a "very high" contribution to "Analyze, design and conduct experiments" or "Design a system, component or process"?). • Issue 2: As to these CL, many module descriptions do not refer to the official set of intended learning outcomes but obviously created their own set (modules TDE102, AIT 1021, COM 131, MAT 101-350, ENG 101-210, E 302, E416, E420, E463).
FA 02	fulfilled (BaMa BME) / *not fulfilled (BaMa EEE)* Statement: The Technical Committee agrees with the assessment of the peers.
FA 10	fulfilled (BaMa BME) / *not fulfilled (BaMa EEE)* Statement: The Technical Committee agrees with the assessment of the peers.

A 3. (ASIIN 5.2) Make sure that programme-specific learning outcomes - as have been defined and publicly communicated - are included into the Diploma Supplement accordingly.

Erstbehandlung	
Peers	fulfilled Statement: Learning outcomes for the different programmes have also been inserted into the Diploma Supplements.
FA 02	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.

FA 10	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.

For the Bachelor degree programmes

A 4. (ASIIN 3) The proposed concept regarding the quality standards of the Bachelor graduation projects should be further elaborated and submitted. Thereby, the individual student's ability to carry out an assigned engineering task independently should be ensured.

Erstbehandlung	
Peers	fulfilled Statement: The proposed changes are a significant improvement and suitable to raise the standards to an international level. While they are well structured and designed, they are also rather time consuming and demanding for the teaching staff.
FA 02	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.
FA 10	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.

For the Bachelor and the Master degree programme Biomedical Engineering

A 5. (ASIIN 4.1) The cooperation between the Biomedical Engineering department and the Faculty of Medicine needs to be formally established in such manner that the medical courses of the programmes are available throughout the accreditation period.

Erstbehandlung	
Peers	fulfilled Statement: It has been evidenced that the cooperation between the Biomedical Engineering Department and the Faculty of Medicine has been formally established in the viable manner.
FA 02	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.
FA 10	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.

A 6. (ASIIN 1.1) The revised programme learning objectives should be made available for the relevant stakeholders (students and lecturers) and communicated publicly in a manner that those stakeholders could refer to (for instance in the framework of the internal quality assurance).

Erstbehandlung	
Peers	fulfilled Statement: The revised programme-specific learning objectives and outcomes have been defined and publicly communicated and also have been included into the Diploma Supplement.
FA 02	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.
FA 10	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.

For the Master degree programmes

A 7. (ASIIN 2.2) Study plans for the second year should reflect the actual workload of the students.

Erstbehandlung	
Peers	fulfilled Statement: The HEI has provided and made publicly available study-plans for the master programmes which reflect the actual student workload appropriately.
FA 02	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.
FA 10	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.

A 8. (ASIIN 1.4) The admission regulations should be supplemented with respect to applicants lacking subject-related pre-requisites as announced in the statement of the university.

Erstbehandlung	
Peers	fulfilled Statement: The supplement document with respect to applicants lacking subject-related pre-requisites has been added to the “Admission and Entry Requirements for Master of Science”. The documents have been replaced on the web site of the departments.

FA 02	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.
FA 10	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.

Decision of the Accreditation Commission (09.12.2016)

The Accreditation Commission agrees with the assessment and recommended resolution of the peers and Technical Committees, in particular regarding requirements 1 and 2.

The Accreditation Commission decides to prolong the accreditation of the degree programmes as follows:

Study programme	**ASIIN-Seal**	**Subject-specific label**	**Duration of accreditation**
Ba Electrical and Electronic Engineering	requirements 1 and 2 not fulfilled	EUR-ACE®	6 months extension
Ma Electrical and Electronic Engineering	requirements 1 and 2 not fulfilled	EUR-ACE®	6 months extension
Ba Biomedical Engineering	requirement 1 not fulfilled	EUR-ACE®	6 months extension
Ma Biomedical Engineering	requirement 1 not fulfilled	EUR-ACE®	6 months extension

J Fulfilment of Remaining Requirements (30.06.2017)

Analysis of the peers and the Technical Committees (June 2017)

Requirements

For all degree programmes

A 1. (ASIIN 4.3) A concept for upgrading the chemistry and physics laboratories must be provided and initial steps for its implementation have to be established.

Second Treatment	
Peers	fulfilled Statement: A list of lab equipment as well as photographic documents show well equipped new chemistry labs. These, however, belong to the Faculty of Pharmacy. A signed protocol of cooperation is provided which is meant, in very broad and general terms, to allow the use of these labs for the BaMa EEE and BaMa BME programmes. While these general terms may be adequate and sufficient in a situation of good-will on both sides, some more specificity would have the advantage of giving the Faculty of Engineering a right to use those labs in the extent required by their programmes. However, it can be concluded that the criticism has been accepted and actions have been taken to improve the quality of education. All in all, the additional information delivered by NEU indicate, that the available equipment is available and on an acceptable level.
TC 02	fulfilled Statement: The Technical Committee agrees with the assessment and recommended resolution of the peers.
TC 10	fulfilled Statement: The Technical Committee agrees with the assessment and recommended resolution of the peers.

A 2. (ASIIIN 5.1) Update the module descriptions according to the indications in the accreditation report (learning outcomes, consistency of specifications regarding assessment methods and workload allocation, module coordinators/responsible per-

sons, inconsistencies in module descriptions summer training/internship, Master Thesis) and make them accessible to all relevant stakeholders.

Zweitbehandlung	
Peers	fulfilled *(BaMa EEE)* Statement: As to requirement 2 (module descriptions EEE), the module handbook for the Bachelor's degree programme has been updated, eliminating the identified deficiencies. Since similar deficiencies have been identified in the module handbook for the Master's degree programme, but unfortunately have not been clearly addressed to NEU, the peers propose adding an indication requesting the programme coordinators to adapt the level classification accordingly (*see end of the document*).
TC 02	fulfilled Statement: The Technical Committee agrees with the assessment and recommended resolution of the peers. It also follows the suggestion to add an indication to the letter of confirmation to the HEI concerning the revision of the module handbook for the Electrical Engineering Master programme.
TC 10	fulfilled Statement: The Technical Committee agrees with the assessment and recommended resolution of the peers. It also recommends adding an indication to the letter of confirmation to the HEI concerning the revision of the module handbook for the Electrical Engineering Master programme.

Decision of the Accreditation Commission (30.06.2017)

Assessment:

The Accreditation Commission agrees with the recommended resolution by the peers. It considers the remaining requirements fulfilled satisfactorily. As to requirement 2 (module handbooks), it takes into consideration that identical deficiencies have been identified in the module handbook for the Bachelor's and the Master's degree programme Electrical and Electronic Engineering, but unfortunately have not been clearly addressed to NEU. Therefore the Accreditation Commission deems an indication requesting the programme coordinators to adapt the level classification in the module descriptions of the Master's degree programme accordingly to be appropriate.

The Accreditation Commission for Degree Programmes decides to extend the award of the seals as follows:

Study programme	ASIIN-Seal	Subject-specific label	Duration of accreditation
Ba Electrical and Electronic Engineering	remaining requirements fulfilled	EUR-ACE®	30.09.2021
Ma Electrical and Electronic Engineering	remaining requirements fulfilled	EUR-ACE®	30.09.2021
Ba Biomedical Engineering	remaining requirement fulfilled	EUR-ACE®	30.09.2021
Ma Biomedical Engineering	remaining requirement fulfilled	EUR-ACE®	30.09.2021

The Accreditation Commission decides adding the following indication to the official letter of accreditation to NEU:

“It will be checked in the course of the reaccreditation of the Master’s degree programme Electrical and Electronic Engineering whether the module-specific learning outcomes are properly attributed to the programme-related learning outcomes (‘contribution level’).”