ASIIN Certification Report

Associate Degree Programmes
Biomedical Equipment Technology
Electrical and Electronics Technology

Higher Diploma Programmes
Biomedical Equipment Technology
Electrical and Electronics Technology

Provided by
Eastern Mediterranean University, Famagusta, North Cyprus

Version: 02 December 2015

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A About the Certification Process

Title of the Programmes	Previous certification
Associate Degree in Electrical and Electronics Technology/ Elektrik ve Elektronik Teknolojisi Önlisans	n.a.
Higher Diploma in Electrical and Electronics Technology/ Elektrik ve Elektronik Teknolojisi Yüksek Tekniker Önlisans	n.a.
Associate Degree in Biomedical Equipment Technology / Tıbbi Cihaz Teknolojisi Önlisans	n.a.
Higher Diploma in Biomedical Equipment Technology / Tıbbi Cihaz Teknolojisi Yüksek Tekniker Önlisans	n.a.

Date of the contract: 18.03.2014

Submission of the final version of the self-assessment report: 27.05.2015

Date of the onsite visit: 10.-11.09.2015

at: Famagusta, North Cyprus

Peer panel:

Prof. Dr. Hans-Martin Gündner, Hochschule Esslingen;

Prof. Dr. Wolfgang Krautschneider, Technische Universität Hamburg-Harburg;

Prof. Dr. Wolfgang Schroer, Hochschule Ulm;

Dr. Alfred Schulte, Robert Bosch GmbH

Representative of the ASIIN headquarter: Dipl.-Kulturw. Jana Möhren

Responsible decision-making committee: Certification Committee

Criteria used:

Standards for the Certification of (Further) Education and Training for courses and modules related to Computer Sciences, Technology, Natural Sciences and Business Eco-

nomics as of 27.07.11.

European Standards and Guidelines as of May 2015.

B Characteristics of the Programmes

a) Name of the programme	b) Degree awarded upon conclusion	c) Mode of Study	d) Duration & Credit Points	e) First time of offer & Intake rhythm	f) Number of students per intake	g) Fees
Associate Degree in Electrical and Electronics Technology	Associate Degree	Full time	4 Semester 127 ECTS (73 EMU credits)	Fall 2000 / Fall-Spring semester	50 in fall semester, 10 in spring semester	€ 2,543/year for Northern Cyprus students
Higher Diploma in Electrical and Electronics Technology	Higher Diploma	Full time	6 Semesters (Ass Degree + 1 year)/ 60 ECTS (18 EMU credits)	Fall 2000 / Fall-Spring semester	15 in fall semester, 10 in spring semester	€ 2,543/year for Northern Cyprus students
Associate Degree in Biomedical Equipment Technology	Associate Degree	Full time	4 Semester 120 ECTS (62 EMU credits)	Fall 2010 / Fall-Spring semester	15 in fall semester, 10 in spring semester	€ 2,543/year for Northern Cyprus students
Higher Diploma in Biomedical Equipment Technology	Higher Diploma	Full time	6 Semesters (Ass Degree + 1 year)/ 60 ECTS (21 EMU credits)	Fall 2013 / Fall-Spring semester	15 in fall semester, 10 in spring semester	€ 2,543/year for Northern Cyprus students

For the Associate degree programme Electrical and Electronics Technology the institution has presented the following profile in the self-assessment report:

"Students will be able to:

- develop program techniques for microcontroller, understand how PLC works.
- learn the solar energy systems, solar cells, solar system classifications, PV system components, PV systems economy and prices, other renewable energy sources, and environmental considerations against pollution.
- understand the principles of semiconductor devices theoretically and practically, and improve the students digital electronic knowledge about logic ICs, combinational circuits.
- learn the basic concepts of basic electrical concepts, voltage, current, resistance and calculations and definitions, frequency and period definitions and calculations, power, energy, phase angle, RC circuits.

- learn basic concepts of electrical installations, distribution systems, project materials and symbols, protection, safety, electrical installation and testing, oxidation and mechanical damage and removal, basic applications of electrical installation projects.
- In addition, the general safety and first aid to teach the rules against electric shock."

For the Higher Diploma programme Electrical and Electronics Technology the institution has presented the following profile in the documentation:

"Students graduated from the three year EET HD programme will be able to:

- Apply microprocessor programming techniques to the projects
- Develop projects using high level programming language
- Install/apply developed programs to microprocessors
- Design advanced logic integrated circuits
- Identify the characteristics of electronic components used in industrial equipments
- Develop programs for Programmable Logic Controller (PLC)
- Learn the basics of renewable energy systems and environmental considerations
- Design simple projects as a team work
- Make more real life applications and integrate to the industry
- Integrate themselves to the industry more easily"

For the Associate Degree Biomedical Equipment Technology, the university has provided the following objectives in the self-assessment report:

"Students will be able to:

- develop skills of entry-level technicians for the operation, inspection, installation, calibration, repair, maintenance and safety of patient-care and non-patient care equipment.
- develop skills for effective verbal and written communication, and for participating effectively in the execution projects, and to foster professional attitudes and awareness of the benefits of life-long learning.
- have a learning environment that is based on open interaction with experienced staff and a curriculum that follows the developments in BET field with practical knowledge compatible with business requirements."

For the Higher Diploma in Biomedical Equipment Technology the documentation states as programme aims:

Students graduated from the three year HD programme of Biomedical Equipment Technology, will be able to:

- Analyze and classify different types of lasers used in different medical applications.
- Troubleshoot, assemble, repair and service of laboratory support equipment.
- Apply methods for planning, organization, communication, supply management, marketing and finance management, personnel and resource management in health care services
- Set up, troubleshoot, and maintain patient monitor.
- Troubleshoot and maintain impedance pneumography apparatus and spirometers
- Apply microprocessor programming techniques to the projects
- Develop projects using higher level programming language
- Install/Apply developed programmes to microprocessors
- Identify the characteristics of electronic components used in industrial equipments
- Make more real life applications as individual or as a team member and integrate to the health sector
- Integrate themselves to the health sector more easily

C Peer Report for the ASIIN Certificate

1. Formal Information

Criterion 1.1 Formal Information

Evidence:

- Self-Evaluation Report (SER)
- Programme websites: http://sct.emu.edu.tr/departments/EE/index.htm, http://sct.emu.edu.tr/departments/BMET/index.htm

Preliminary assessment and analysis of the peers:
The panel considered the formal information provided for all programmes to be adequate and transparent. Information about programme names, degrees, modes and duration of study, enrolment schedules and places as well as fees were made available for both the two year and the three year programmes.

In this context, the panel took note that the language of instruction for all four programmes is Turkish. The School of Computing and Technology as the responsible unit within the university also offers English language Bachelor and Master degree programmes.

Criterion 1.2 Legal relationship: mutual rights and duties

Evidence:

- Programme websites: http://sct.emu.edu.tr/departments/EE/index.htm, http://sct.emu.edu.tr/departments/BMET/index.htm
- Rules and Regulations on website: http://mevzuat.emu.edu.tr/Content-en.htm

Preliminary assessment and analysis of the peers:
Due to the setting of the degree programmes within a regular university context, the rights and duties of students as well as those of the university correspond to those of higher level programmes. Accordingly, all necessary information is provided in the rules and regulations administering the student life cycle (see further criterion 7.1).

Final assessment of the peers after the comment of the Provider regarding criterion 1:

As the university made no comments to this criterion, the peers upheld their original analysis: they considered the criterion to be fulfilled.

2. Courses/Modules: Content, Policy and Implementation

Criterion 2.1 Learning outcomes of the course/module

Evidence:

- Self-Evaluation Report, additional documentation provided to panel
- Programme websites: http://sct.emu.edu.tr/departments/EE/index.htm, http://sct.emu.edu.tr/departments/BMET/index.htm
- Discussions with university management, school management, programme directors

Preliminary assessment and analysis of the peers:

The panel analyzed the programmes objectives taking into account the differentiation between the respective two and three year programmes as well as their classification with regard to Bachelor level programmes. They understood that the programmes at hand explicitly target a very practice oriented immersion into the labour market rather than pursuing advanced higher education, though the latter would be formally possible through enrolment in a Bachelor programme. While the peers considered the differences between the respective two and three year programmes to be minimal, they did understand that the vast majority, i.e. about 90%, of graduates of the two-year associate degrees continue into the third year for the acquisition of the higher diploma (i.e. technician degree).

The peers very positively acknowledged that all four programmes cater toward the national need of vocational level, practically skilled graduates and that the intended learning outcomes thus reflect those practical skills. The panel also aligned the programmes with the qualification expectations for level 5 programmes as defined by the European Qualifications Framework:

For the programmes in Electrical and Electronics Technology, the panel found that students are taught specialized and theoretical knowledge in the field of electrical installations and electricity. They shall also acquire practical skills in those fields in order to be able to troubleshoot problems of electrical installations of small and medium projects as well as maintain and repair control systems and devices. In terms of responsibility and

autonomy in their work, students are expected to respect professional ethics, communicate within their field and work as responsible member of teams.

For the programmes in Biomedical Equipment Technology, students equally shall acquire specialized and factual knowledge in their field, namely in medical applications and laboratory equipment and the health sector. Practical skills to be gained include the maintenance, operation and repair of different types of patient care and non-patient care equipment. In particular in the third year (higher diploma), students are expected to gain practical skills working with the equipment in hospitals or health centres. With regard to social skills, students are expected to gain communication and team working skills as well as an appreciation of the need for lifelong learning and respecting professional, ethical guidelines.

While the panel generally agreed with the intended learning outcomes, they discussed a number of specific skills with those responsible for the programmes:

With regard to the Electrical and Electronics Technology programmes, the panel discussed with the university to which extent solar and renewable energy methods were included in the programme.

The peers also questioned whether basic skills in at least one higher programming language (such as C) would be useful with a view to enhancing the job qualification. Currently, only skills in assembler are included in the programme, though the university and peers agreed that this is not actually used in companies. Though those responsible for the programme explained that up to now no demands had been made from companies requesting graduate skills in C programming or similar, the peers would find this useful as they expect needs to be growing in this area as companies are further developing. Thus the knowledge of one higher programme language would enable graduates to gain some systematic programming skills principally also transferable to other languages.

In light of the fact that the university informed the panel that many graduates set up their own (small) companies, the panel also discussed whether entrepreneurship skills were expected to be acquired within all programmes. They understood that some modules in this direction were being conceived at the moment and encouraged the university to pursue and implement this.

The panel took note that the programmes objectives are published on the website of the university, and thus are accessible to the stakeholders. With regard to the descriptions of the individual modules (courses), the level of detail of information available on the website differed between the English and the Turkish version. The latter may be more extensive than the English language information available which would be adequate for the

mainly Turkish-speaking stakeholders. However, the panel understood that the descriptions were also made available to the students at the beginning of each semester. They considered this to be adequate.

Criterion 2.2 Prospects of the labour market and practical orientation

Evidence:

- Results from exit and alumni survey
- Results from employer survey
- Discussions during onsite visit with university and school management, programme directors and students

Preliminary assessment and analysis of the peers:
The panel discussed the relations with the labour market intensively with different representatives of the university. They considered the apparent orientation of the programmes to the national labour market to be one of the strong points of all programmes under review. They learned that this was based on a number of communication channels with the industry: The School responsible for the programmes has – as do the other schools and faculties of the university – an industrial advisory committee which meets at least once per year. Staff members also receive feedback on needed skills and competences through employer surveys as well as through the information provided by employers after students have completed their summer trainings in the companies. The panel took note that the target labour market was primarily North Cyprus with some extensions to Turkey. While no production industry exists in North Cyprus, graduates are expected to find positions in the service industry, installation, or the IT sector as well as – with regard to the Biomedical Equipment Technology programmes – in the growing health sector including private hospitals which have a need for technical personnel.

The relations with the labour market are also important for the implementation of the 50 day summer placements in the associate degrees and 80 day placements in the second semester of the higher diploma. The panel understood that, as students at some occasions sought more assistance for identifying a suitable company, the School has numerous contacts and can provide students with a list of suitable companies if requested by the students. The panel found that students may need to be made aware of this option so that all placements are carried out in a sensible and effective manner. In the relatively new Biomedical Equipment Technology programmes placements so far take place in public hospitals but a number of graduates have already set up their own service companies where future students will also find placement opportunities.

During the placements, staff members are in contact with the companies and students have to make weekly reports to lecturers. At the end of the internship, the supervisor at the company provides a sealed log-book to the university detailing the performance of the student. The latter also have to make presentations about their activities. The panel considered the implementation and supervision of the placements to be highly suitable for fostering practical skills of students. Together with the meaningful labs included in a majority of courses, the panel considered practical elements (industrial placements and summer teaching) to be a particular strength of the programmes.

Criterion 2.3 Admission requirements

Evidence:

- Admission rules and entrance exam : http://mevzuat.emu.edu.tr/5-1-1-Rules-Entrance_exam.htm
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:

The entrance requirements are stipulated in a general manner for all programmes of the university. Entrance to the associate degree is possible after the completion of 11 years of secondary education, in a majority of cases graduation from a vocational high school. For nationals of North Cyprus or Turkey, no entrance exam is requested which is the case for foreign students. As the programmes are taught in Turkish, the number of foreigners is extremely low. The panel considered the entrance requirements to be adequate and transparent for potential students. In fact, the peers found that the staff members dealt particularly well with the heterogeneous competences of incoming students.

However, while the admission rules for the two-year programmes are published on the university website, the panel was not in a position to confirm the same for the three-year programmes. This should be remedied in order to achieve full transparency for all external stakeholders.

As enrolment is principally offered in each semester, the peers questions whether specific measures are taken for those students who start in the spring semester. Despite the fact that most courses are only offered once a year, not all modules have prerequisites so that they can be easily taken in a different order. Some modules such as English are also offered during each semester. The panel found the explanations of the university to this regard comprehensible.

Criterion 2.4 Contents

Evidence:

- Module descriptions (Course Policy Sheets) in SER
- Sample Industrial Training Logbook
- Curriculum and course descriptions on websites: http://sct.emu.edu.tr/departments/EE/index.htm, http://sct.emu.edu.tr/departments/BMET/index.htm
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:

The curricula of the programmes were analyzed with regard to their contribution towards the respective programme aims and the expected tasks of graduates in the labour market.

In all programmes, the peers noted that only one course in mathematics and no courses in physics are included in the curricula. They learned that the mathematics module in the first semester is largely used for reviewing typical school level mathematical skills while aspects of physics are included in nearly all modules. However, the School has already started discussion and is willing to initiate the formal steps to include an explicit physics course. The panel strongly supported such an endeavour as they considered a good basic education in mathematics and physics will provide a basis for students throughout their working life, even though not all principles of these subjects will find direct application in their likely first jobs.

The peers also discussed the electronics modules with the teaching staff. More specifically, they questioned why the taught content as well as the textbooks is use focused on bipolar transistors while in modern electronic equipment MOS-technology is mostly used nowadays. They would thus find it more useful to include this type of transistor. The university agreed with this point of view and indicated that discussions are already under way. Nevertheless, they considered that an improved physics education would be a prerequisite for further enhancement in this field. The peers pointed out that they had made good experience with teaching MOS-transistors to entry level students.

As mentioned above (criterion 2.1), the panel also discussed to which extent entrepreneurial or business management skills are taught in the programme. They would find these useful as it was understood that a significant number of graduates opened their own business. The panel positively acknowledged that courses within these subject areas were already planned to be introduced into the programmes.

The curricula of the Electrical and Electronics Technology programmes focused extensively on PC-related topics in the opinion of the panel. While they understood that graduates were expected to work in service rather than production, the panel considered that communication hardware and bus systems would be relevant for graduates working in installation, in particular in view of expected technological developments in the next decade.

In the field of electrical installations, the panel discussed whether the competences of graduates in working with installation buses, field buses or mobile IP-based communication could be enhanced. The peers pointed out that these topics seemed to be relevant for the electrical installations which graduates will likely have to work with (e.g. balcony doors in hotels). Such skills could also be gained within students projects. One prerequisite would be an update of the corresponding lab (see below, criterion 5.2).

The suggestion of including a higher level programming language in the Electrical and Electronics Technology programmes was already dealt with above (criterion 2.1).

The panel also questioned to which extent the subject of operational amplifiers was part of the curricula. They understood that these are currently considered mostly as an ideal black box. While they agreed with the university that the topic could be better raised once the mathematical and physical background was improved, but they nevertheless considered that at least the subject of input and output resistance would be important, in particular for the Biomedical Equipment Technology programmes.

With regard to these programmes, the peers learned that students are expected not only to take measurements in human systems but also to analyze how the potential of what is measured is generated. To this regard, they agreed with the university that a shift of focus of some modules would be helpful. While currently the topic of anatomy is extensively dealt with, a shift of focus to the field of physiology would be sensible. Furthermore, in order to enhance the practical skills of students, such courses could also be taught within labs rather than in the form of lectures.

Final assessment of the peers after the comment of the Provider regarding criterion 2:

The panel was very impressed with the actions undertaken by the university in order to implement their recommendations with regard to numerous topics which could in their opinion improve the programmes under review. They encourage the School managing the programmes to continue in this direction and expect the university's authorities to support them in this manner.

The peers acknowledged the clarification regarding the admission to the three year programme.

Overall, the panel considered criterion 3 to be fulfilled.

3. Courses/Modules: Structures, Methods and Implementation

Criterion 3.1 Structure

Evidence:

- Module descriptions (Course Policy Sheets) in SER
- Curricula on websites: http://sct.emu.edu.tr/departments/EE/index.htm, http://sct.emu.edu.tr/departments/BMET/index.htm
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
The panel considered the structure of the programme to be sensible and the modules (courses) on offer to constitute adequate teaching and learning entities. While a few modules are indicated as area electives, the peers understood that in fact specific courses are expected to be followed by the students (preparation for the Electrical Installation Certificate, English for Electronics, Introduction to Telecommunications).

Criterion 3.2 Workload

Evidence:

- Module descriptions (Course Policy Sheets) in SER
- Curriculum on websites: http://sct.emu.edu.tr/departments/EE/index.htm, http://sct.emu.edu.tr/departments/BMET/index.htm
- Results of student surveys
- Discussions with students and teaching staff during onsite visit

Preliminary assessment and analysis of the peers:
The university has its own credit point system in place, so called EMU credits, but also provides ECTS for each module. While the EMU credit system is mostly contact hour based, the peers pointed out a number of miscalculations in the module descriptions: for example, lab hours are sometimes indicated with 0,5 or with 0,75 EMU credits.

As the university states that one ECTS credit is awarded for 30 hours of student workload, this would suggest a very high level of self study hours since the total number of lectures, seminars and labs of all modules only adds up to about 60-64 hours per semester where-

as the total workload as expressed by ECTS would be 150-160 hours. However, the results of student surveys as well as the discussions with the students showed that their actual workload is much lower. The panel acknowledged that teaching staff tried to increase students work done outside of the classroom by giving them additional homework and projects tasks. Nevertheless, the ECTS points do not currently reflect the actual workload of students. This should be corrected but the comparatively low workload at the moment might also offer opportunities for adding a number of additional subjects as mentioned above (criteria 2.1, 2.4).

During the period between the spring and the fall semester, so-called summer school courses are offered during 40 working days. Students who have failed a course during the previous year have the opportunity to follow these courses – with double daily teaching hours – in order to proceed to the next semester without loss of time.

Criterion 3.3 Teaching methodology

Evidence:

- Module descriptions (Course Policy Sheets) in SER
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
During the onsite visit, the peers learned that nearly all courses include small group projects of 5-6 students which have to be completed throughout the semester. Each student within a group is assigned his own small task and the whole group has to present its results at the end of the semester. The peers positively noted this teaching method as it had not been transparent from the written course descriptions.

Furthermore, the panel appreciated that instructors, not least due to the limited availability of up-to-date textbooks in Turkish language, generally prepared their own lecture notes and made use of website to which student could refer.

Criterion 3.4 Support and assistance

Evidence:

- Self-Evaluation Reports
- Results from Exit and Alumni survey
- Discussions with students and teaching staff during onsite visit

Preliminary assessment and analysis of the peers:
Academic guidance is principally offered through the university wide student affairs department. However, the School implementing the programmes has an open door policy

so that staff members, including the School management, are always available for student requests. Additionally, students have to register online for courses before the start of each semester but have to discuss their selection with a designated advisor who has to confirm their choice. During these meetings, the advisor also provides general support and advice to the students. The panel gained the impression that the good relation between teaching staff and students was a particular asset of the programmes and led to a high degree of satisfaction and positive atmosphere.

Final assessment of the peers after the comment of the Provider regarding criterion 3:

The panel took note that the lab hours indicated in the module descriptions refer to the calculated staff rather than students' workload. They also acknowledged that some changes made to the curriculum might affect the students' workload. While they positively noted that the university intends to make a survey of actual student workload in the frame of the end of the semester evaluations, they were not convinced that the workload expressed in ECTS currently reflected the actual student workload. They thus asked the university to provide further evidence of the student workload, for example through results of the surveys after the implementation of the new curriculum.

Apart from this issue, the panel considered criterion 3 to be fulfilled.

4. Examination: System, Policy and Forms

Criterion 4 Exams: System, policy and forms

Evidence:

- Exam rules: http://mevzuat.emu.edu.tr/Content-en.htm
- Exam schedule: http://sct.emu.edu.tr/
- Review of exams and project reports during onsite visit
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:

Different types of exams are in use to assess the achievement of learning outcomes. The panel took note that all courses include a written mid-term and final exam. In addition, students have to orally present the results of their group projects in the courses where these are included. In the labs students generally have to perform small tasks and give oral explanations on their activity. They questioned to which extent attendance also contributed to the grading of courses as seemed to be the case for a few modules. The peers understood that students could obtain a few additional points towards raising a course

grade for their performance during lectures but not for mere attendance. All the different exam methods contribute to the final course grade. This is clearly indicated in the module descriptions. The panel was satisfied with the types of assessments in use.

With regard to the exam organisation, the peers noted that the schedules were made transparent to the students. Resits are offered a few weeks after the grades of the final exam have been announced. In case a student would also fail this make-up exam, the whole module would have to be repeated. During the next semester, students could nevertheless follow the other modules regularly on offer in line with the study plan, despite having to wait until the failed module is offered again. The mathematics modules are offered every semester in order to avoid delays in student progression. During the summer break, a number of courses are also offered for students who have failed them during the year. The peers considered this as suitable means of contributing to smooth student progression.

Final assessment of the peers after the comment of the Provider regarding criterion 4:

As the university made no comments to this criterion, the peers upheld their original analysis: they considered the criterion to be fulfilled.

5. Resources

Criterion 5.1 Staff

Evidence:

- CVs of staff members in SER
- Overview of teaching staff areas of interests
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
As indicated previously in this report (criterion 3.4), the relation between lecturers and students was considered to be one of the strong points of the programmes. The panel attributed this not least to the high level of motivation of the teaching staff.

The peers found that the staff composition was suitable to carry out the programme as planned. In addition to the teaching staff, student and lab assistants provide support in the labs.

Staff development is the principal responsibility of the schools and faculties. The central administration provides grants for lecturers to participate in international conferences

while the educational department offers seminars on, for example, new teaching techniques. Participation in such seminars is voluntary but much encouraged by the administration. Requests for grants or sabbatical leaves are handled by the School itself. The panel learned that staff members were generally satisfied with their development opportunities. A point-based system is in place for the promotion of staff, collecting points for example for the publication in journals indexed by ISI, Scopus, etc. Though staff members indicated that due to the rather high teaching load, it was not always easy to implement research, the panel gained the impression that overall the support from the university was adequate and that staff members were content with their development opportunities.

Criterion 5.2 Institutional setting, funding and equipment

Evidence:

- Self-Evaluation Report
- Visit of laboratories, classrooms, library during the onsite visit
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
The budget of the university stems from both student fees and state funds, the latter from North Cyprus as well as Turkey. Distribution among the faculties, departments, and schools is made by the university administration (rector, executive board) based on the respective needs. The peers convinced themselves that the funding for the programme under review was adequate.

The resources for teaching and learning, in particular classrooms, computer rooms, most laboratories and library were considered to be sufficiently well maintained. Students also confirmed that access to the necessary software resources and library access was possible also from their private computers.

In this context, the panel noted, however, that the equipment needed for the biomedical technology laboratory was particularly expensive and thus funds were a bit more limited in this area. The panel felt it important to point out that equipment needs to keep up with changing developments and demands in the health care sector.

As mentioned above (criterion 2.4), the installation lab would also need an upgrade and modernization to allow students to acquire more competences in modern communication networking, e.g. in the field of installation buses, so that students can not only participate in company visits – as is currently the case – but would also be able to practically acquire skills.

Final assessment of the peers after the comment of the Provider regarding criterion 5:

The panel valued the commitment of the School to upgrade the installation lab and encouraged the university to approve these updates. To this extent, the panel considered criterion 5 to be fulfilled.

6. Quality Management: Development and Enhancement

Criterion 6.1 Quality assurance & enhancement

Evidence:

- Self-Evaluation Report
- Regulations for Academic Assessment and Quality Improvement at Eastern Mediterranean University
- Eastern Mediterranean University Quality Assurance Handbook
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
A great openness for reflecting on and revising the programmes was positively acknowledged by the peers. They gained the impression that the lecturers at the School felt an ownership of the programmes and were thus ready to participate in quality improvement.

The quality assurance activities are led and implemented by the Quality Management Committee at School level. It reports to the university level University Board for Quality Coordination and Evaluation and its academic units Commission. While at the School level, it was understood that the composition consisted only of teaching staff, the university commission includes representatives from the student body as well as the business community. The quality management principally consists of conducting a number of surveys – of students, graduates and employers, as well as of the collection of statistical data about student numbers, composition of the student body, drop-out and graduation rates. Planned changes to the curriculum are decided by the Curriculum Committee at School level and subsequently have to be approved by the University Board.

The panel understood that students' achievement of intended learning outcomes is measured on the one hand by direct evaluation, i.e. exams within the modules, and indirect evaluation on the other hand in the form of surveys. At the end of each semester, students fill out so-called instructor and course evaluations focussing on the implementation of the course per se and the quality of the lecturers but also issues such as workload.

From the survey results, a report is generated which is discussed in the Quality Committee as well as by the School Director and the respective staff members. The panel learned that students are not normally informed about the results of the surveys. While some lecturers share results out of their own initiative, it is generally found hard to do so as evaluations only take place after the final exams and students might not return to the same lecturer within the duration of the programme. The peers raised the issue of closing feedback loops, i.e. the last step in a quality circle which would consist of informing all participants in teaching and learning in quality management outcomes.

Criterion 6.2 Instruments, data and methods

Evidence:

- Self-Evaluation Report
- Regulations for Academic Assessment and Quality Improvement at Eastern Mediterranean University
- Eastern Mediterranean University Quality Assurance Handbook
- Survey results and questionnaires: exit survey, alumni survey, employer survey
- Instructors evaluation questionnaire
- Statistics about student number, drop-outs
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:

In addition to the course-based surveys, graduates and employer surveys are in place focussing more on the actual achievement of intended learning outcomes. The statistics about student progression, drop-out rates and student numbers did not indicate any significant deviations from the average nor average study durations nor particularly high drop-out rates. The figures available were, however, still rather few so that the university was encouraged to systematically expand its database. The relatively low student numbers overall might also benefit the positive situation. The panel concluded that those responsible for managing the programme were generally aware of stakeholders' opinions and found the surveys to be a good tool for the further development and effectiveness of the quality management system. Information from statistical data was also drawn upon for decision making which the panel considered to be sensible first step towards statistic-based quality control.

Final assessment of the peers after the comment of the Provider regarding criterion 6:

The peers positively acknowledged that the School of Computing and Technology plans to implement their suggestion regarding the feedback of student survey results to the sur-

vey. The members acknowledge that the School currently depends on the central administration's rules about the timing of the surveys at the end of the semester. Should the request for changing that date not be accepted by the university administration, other means would have to be found to ensure closing the feedback loops. While students would not necessarily be present with the same lecturer in the same course in a following semester, they might still be in contact with the lecturer in other classes. Furthermore, oral feedback mechanisms, focus groups or similar could also be considered. Additionally, the peers also considered that students might be included in the Quality Management Committee, not least to be in line with European Standards and Guidelines for Quality Assurance in Higher Education. Nevertheless, the panel much valued the School's positive reaction to their recommendations and considered the criterion to be generally fulfilled.

7. Documentation & Transparency

Criterion 7.1 Relevant documents

Evidence:

- Rules and regulations: http://mevzuat.emu.edu.tr/Content-en.htm
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
The panel acknowledged that all rules and regulations governing the student life cycle, i.e. admission, progression and graduation were transparently published on the university website. They gained the impression that more information would be available on the Turkish language site than provided on the English one. As the programmes are taught in Turkish language and thus the stakeholders would find information in their language, this was considered adequate.

Criterion 7.2 Certificate upon conclusion

Evidence:

- Sample Leaving Certificates
- Sample Transcripts

Preliminary assessment and analysis of the peers:
At the time of the onsite visit, the Certificate Supplements for the programmes had not been issued. However, the peers understood that this would be provided by the university administration starting from the upcoming semester and would then be handed out to students upon request. The panel asked that a sample was submitted to them. They

also pointed out that the Supplement should be given automatically to all students as a mobility tool complementing the leaving certificate and Transcript of Records. The panel also indicated that the Transcript of Records contained a number of abbreviations in the Transcript which might not be very clear and transparent to external readers.

Final assessment of the peers after the comment of the Provider regarding criterion 7:

The model of the Diploma Supplement provided was considered adequate by the panel. The panel also understood that the School had made a request to the Rectorate that the Diploma Supplement should automatically be provided to all graduates, not only upon request. As this would contribute both to transparency and mobility of graduates the panel supported such a request.

Overall, the panel considered the criterion to be fulfilled.

D Additional Documents

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

D1 Sample of new Diploma/Certificate Supplement per programme

E Comment of the Provider (06.11.2015)

The institution provided the following statement as well as additional documents on the following issues:

D 1. Objectives-Module Matrix for each Programme
D 2. Up-to-date list of Area Elective Modules
D 3. Module Outlines
D 4. Sample Diploma Supplement

Re Criterion 2.1

The renewable energy resources course is available in the 3-year programme with the course code of ELET319. Although it is offered as an area elective course, all students are advised to register to it. The aim of this course is to teach the solar energy systems, solar cells, solar system classifications, photovoltaic (PV) system components, PV system implementations, other renewable energy sources, and environmental considerations against pollution.

The administration of school agreed to update the module content for EETE 233 (Microprocessors) to include high level C programming skills in addition to low level assembly language. The outline for EETE233 is also updated and is shown in Appendix D2.

Re Criterion 2.3

There is no direct entrance to a three-year higher diploma programme in Eastern Mediterranean University. In order to get acceptance to the three year programme, a student has to graduate from the related two-year associate degree programme.

Re Criterion 2.4

The administration of school agreed to include a basic physics module called “Properties of Electronic Materials” in the curriculum. The course will focus on the physical principles underlying the electronic properties of solids. General solid state physics will be taught in the context of technological applications, including the structure of solids, behaviour of electrons, and interaction of light with solids. Emphasis will be on semiconductors and the materials physics of electronic devices.

Once the required approvals are taken, the curriculum of the AEET and ABET programmes will be modified. In AEET, an area elective course will be replaced by the compulsory course of “Properties of Electronic Materials”. In ABET, the course content of BMET168

(Medical Communication) will be combined with BMET268 (Medical Service Documents) and offered as a single course. Thus, the compulsory course of "Properties of Electronic Materials" will be included in the curriculum (See Appendix D3).

Currently, there is one compulsory mathematic course in the curriculum which is considered adequate by the Curriculum Committee of EMU. But, the feedbacks of the ASIIN peers will be evaluated by the departmental administration for further development.

The administration agreed to include MOS-transistors in the module of Electronics II EETE231 (See Appendix D2).

The school administration agreed to update the course contents of EET 268 and EETE 262 to include the topics mentioned above. Communication hardware and mobile IP-based communication will be taught in EET 268 (Introduction to Telecommunication). Bus systems and installation buses will be taught in the course EETE 262 (Installation III). See Appendix D2 for updated outlines.

As mentioned above, operational amplifiers are considered mostly as an ideal black box. According to the feedback from the industry, this content seems adequate for the needs of country. Graduates are expected to work in service industry rather than production as stated by ASIIN peers above.

On the other hand, the subject of input and output resistance is taught in module of BMET 262 (Biomedical Signal Processing) but it is not mentioned in the module descriptions as a topic. The outline of the course BMET 262 is updated to include the corresponding topics (See Appendix D2).

Currently the lecture hours are organized as two hours anatomy and one hour physiology per week. The administration agreed to re-organize these lecture hours as one hour anatomy and two hour physiology so that shift of focus to the field of physiology will be achieved. In order to enhance the practical skills of students some lecture hours will be held in the laboratories of Faculty of Health Sciences, EMU.

Re Criterion 3.2

Lab hours are indicated as 0,5 and 0,75 depending on the status of the staff member in the university. While calculating the workload of academic staff having Ph.D. degree, one lab hour is calculated as 0,5. On the other hand, it is calculated as 0,75 for the other academic staff. These are used in the calculation of the workload of staff members and are not related to the ECTS credit calculation.

Some of the course contents are updated and related topics are added according to the feedbacks of the ASIIN peers, as mentioned before in criterion 2.1 and 2.4. Thus, the new

workload will match the corresponding ECTS credits of the courses. On the other hand, at the end of each semester, course assessment surveys are held to get some feedbacks from the students about the amount of time they spent for studying the courses. Depending on these results, the administration may advise the instructors to include additional homework and projects tasks.

Re Criterion 3.3

As mentioned above by ASIIN peers, EETE134, BMET165, BMET168, BMET268 and ELET319 courses include small group projects. The outlines of these courses are updated and term project instructions are provided (See Appendix D2).

Re Criterion 5.2

The necessary upgrading and modernization of the installation lab is initiated within this semester. The related teaching staff is informed about this modernization and asked to prepare a list of required equipment. The prepared list is sent to the rectorate for necessary approvals. Once the approvals are taken, the equipment will be purchased.

Re Criterion 6.1

The current evaluation process in the university only allows students to make evaluations but not view or comment on the results of these evaluations. The evaluations are done just before the final exam period, and the results are seen by the instructors and administrators after last day for assigning the letter grades. Thus, the instructors do not see the students anymore to discuss the evaluation results. This is the policy of the Eastern Mediterranean University. A written request is done to the rectorate about this issue, according to the feedbacks of the ASIIN visiting team. The aim is to start the evaluation process and collect the data earlier within the semester, and be able to discuss it with the students before the semester ends. This will include the students into evaluation process to make comments about the obtained results and close the feedback loop.

Re Criterion 7.2

The following decision has ben taken in the senate of the university (See Appendix D4):

“Diplomas and/or Graduation Certificates awarded to graduating students are prepared by the Registrar’s office indicating the program completed, date of graduation, title awarded and the level of graduation. Each diploma / certificate carries the signature of the Registrar, the Dean of the Faculty or the Director of the School, the Rector and the stamp of the University. A diploma supplement containing information on the credit value of all taken courses according to the Senate approved European Credit Transfer System as well as the frequency distribution of grades obtained within the last two years of the

registered program in the form of a percentage and numerical table is also given to all graduating students."

As it is mentioned above, diploma supplements started to be provided to all graduates. A sample diploma supplement is shown in Appendix D1.

F Summary: Peer recommendations (19.11.2015)

Taking into account the additional information and the comments given by university the peers summarize their analysis and **final assessment** for the award of the ASIIN certificate as follows:

Programmes	**ASIIN Certificate**	**Maximum duration of certification**
Assocciate Degree Electrical and Electroncis Technology	With requirements	31.12.2020
Higher Diploma Electrical and Electroncis Technology	With requirements	31.12.2020
Assocciate Degree Biomedical Equipment Technology	With requirements	31.12.2020
Higher Diploma Biomedical Equipment Technology	With requirements	31.12.2020

Requirements

For all programmes

A 1. (ASIIN 3.2) The university has to demonstrate that the ECTS points reflect the actual student workload.

A 2. (ASIIN 7.2) A Certificate Supplement should be issued automatically to *all* graduates.

Recommendations

For all programmes

E 1. (ASIIN 2.1, 2.4) Students shall be encouraged to acquire skills in entrepreneurship.

E 2. (ASIIN 3.2) It is recommended to continuously check whether module really creates the amount of work corresponding to the specified ECTS points, and whether the students can accomplish that amount of work during 6 months.

E 3. (ASIIN 6) It is recommended to further develop the quality assurance system and to provide feedback to the students. Students should be involved in the quality assurance feedback loops more actively.

For the EET programme

E 4. (ASIIN 2.4, 5.2) It is recommended to upgrade and modernize the installation lab as planned in order to enable students to acquire competences in modern communication networking (installation bus, field buses, mobile IP-based communication).

For the BET programme

E 5. (ASIIN 2.4) It is recommended to shift intended competences in the field of anatomy to increased competences in the field of physiology and implement some of the courses in laboratories.

E 6. (ASIIN 5.2) It is recommended to continuously update the laboratory equipment in order to keep up with changing industry demands.

G Decision of the Certification Committee (02.12.2015)

Assessment and analysis for the award of the ASIIN Certificate:

The Certification Committee discussed the report and the final recommendation of the peer panel.

The committee made a number of editorial changes to the proposed requirements and recommendations in order to make them precise and also to align the wording between the three procedures implemented at the university. Therefore, the committee decided to change the recommendation about quality assurance into a requirement.

The committee discussed whether the question of strengthening entrepreneurship skills should be included in the recommendations as this could be a worthwhile topic for all degree programmes. The committee decided to keep the recommendation since the issue had been particularly mentioned as desired objective for the programmes in this cluster.

The Certification Committee decides to award the ASIIN certificate as follows:

Programmes	**ASIIN Certificate**	**Maximum duration of certification**	**Alignment to a Qualification Framework Level**
Associate Degree Electrical and Electronics Technology	With requirements	31.12.2020	EQF level 5
Higher Diploma Electrical and Electronics Technology	With requirements	31.12.2020	EQF level 5
Associate Degree Biomedical Equipment Technology	With requirements	31.12.2020	EQF level 5
Higher Diploma Biomedical Equipment Technology	With requirements	31.12.2020	EQF level 5

Requirements

For all programmes

A 3. (ASIIN 3.2) It must be demonstrated that the ECTS points reflect the actual student workload.

A 4. (ASIIN 7.2) A Certificate Supplement should be issued automatically to *all* graduates.

A 5. (ASIIN 6) Students should be involved in the quality assurance processes at committee level. All students should receive the feedback of quality assurance instruments' results (to close feedback loops).

Recommendations

For all programmes

E 1. (ASIIN 2.1, 2.4) Students shall be encouraged to acquire skills in entrepreneurship.

E 2. (ASIIN 2.4) It is recommended to increase mathematics in order to ensure that students acquire sufficient basic skills in the natural sciences

E 3. (ASIIN 3.2) It is recommended to continuously check whether modules really incur as much workload as is specified by the ECTS points awarded for them, and whether the students can accomplish that amount of work during 6 months.

For the EET programme

E 4. (ASIIN 2.4, 5.2) It is recommended to upgrade and modernize the installation lab as planned in order to enable students to acquire competences in modern communication networking (installation bus, field buses, mobile IP-based communication).

For the BET programme

E 5. (ASIIN 2.4) It is recommended to shift intended competences in the field of anatomy to increased competences in the field of physiology and implement some of the courses in laboratories.

E 6. (ASIIN 5.2) It is recommended to continuously update the laboratory equipment in order to keep up with changing industry demands.

Appendix: Programme Learning Outcomes and Curriculum

According to the self-evaluation report the following **learning outcomes** shall be achieved by the associate degree programmes:

- Graduates use theoretical and practical knowledge and skills to analyse, troubleshoot, and maintain program systems and devices used in the BET and EET industry.
- Graduates repair systems and equipment by applying logic and knowledge to solve problems associated with BET and EET.
- Graduates can apply acquired skills and learn new skills by engaging in lifelong learning
- Graduates can work as a productive and responsible team member
- Graduates can design and implement electrical installation for small and medium size projects in EET field.
- Graduates can adapt to changing business requirements by using their practical skills
- Graduates can understand the generation, transmission and distribution of electricity in EET field.
- Graduates can understand the electrical installation project reading and recognition of the symbols used in EET field.
- Graduates has improved skills in oral and written communication in the biomedical technology and electrical electronics technology fields (in parallel with the objectives, students are assigned homeworks, project work, prepare reports and make powerpoint presentations in some courses)
- Graduates can use different hardware and software components in a computer system.
- Graduates are aware of the importance of use of professional ethics in the BET and EET fields.

Additionally, graduates of the Higher Diploma in Electrical and Electronics Technology shall be able to:

- Apply microprocessor programming techniques to the projects
- Develop projects using high level programming language
- Install/apply developed programs to microprocessors

- Design advanced logic integrated circuits
- Identify the characteristics of electronic components used in industrial equipments
- Develop programs for Programmable Logic Controller (PLC)
- Learn the basics of renewable energy systems and environmental considerations
- Design simple projects as a team work
- Make more real life applications and integrate to the industry
- Integrate themselves to the industry more easily

Graduates of the Higher Diploma in Biomedical Equipment Technology shall be able to:

- Analyze and classify different types of lasers used in different medical applications.
- Troubleshoot, assemble, repair and service of laboratory support equipment.
- Apply methods for planning, organization, communication, supply management, marketing and finance management, personnel and resource management in health care services
- Set up, troubleshoot, and maintain patient monitor.
- Troubleshoot and maintain impedance pneumography apparatus and spirometers
- Apply microprocessor programming techniques to the projects
- Develop projects using higher level programming language
- Install/Apply developed programmes to microprocessors
- Identify the characteristics of electronic components used in industrial equipments
- Make more real life applications as individual or as a team member and integrate to the health sector
- Integrate themselves to the health sector more easily

The following **curricula are** presented – updated version received together with comments of the provider:

Electrical and Electronics Technology

First Year Fall Semester (15 Credits, 26 ECTS) / Birinci Yıl Güz Dönemi (15 Kredi, 26 AKTS)						
Course Code / Ders Kodu	**Ref. Code / Ref. Kodu**	**Course Name / Ders Adı**	**Credit / Kredi**	**ECTS / AKTS**	**Category / Kategori**	**Prerequisite(s) / Önkoşul**
ENGL171	32711	Temel İngilizce I / Basic English I	(3,0,1) 3	5	UC	-
MATE117	32712	Elektronik Teknisyenliği Matematiği / Mathematics For Electronic Technicians	(3,0,1) 3	5	UC	-
EETE111	32713	Mesleki Yönlendirme / Vocational Orientation	(3,0,0) 3	5	AC	-
EETE143	32714	Elektroteknik / Electrotechnology	(2,3,0) 3	6	AC	-
EETE101	32715	Bilgisayar Giriş / Introduction To Computing	(2,2,0) 3	5	AC	-
First Year Spring Semester (18 Credits, 34 ECTS) / Birinci Yıl Bahar Dönemi (18 Kredi, 34 AKTS)						
Course Code / Ders Kodu	**Ref. Code / Ref. Kodu**	**Course Name / Ders Adı**	**Credit / Kredi**	**ECTS / AKTS**	**Category / Kategori**	**Prerequisite(s) / Önkoşul**
ENGL172	32721	Temel Ingilizce II / Basic English II	(3,0,1) 3	5	UC	ENGL171
EETE132	32722	Elektronik I / Electronics I	(2,3,0) 3	6	AC	-
EETE134	32723	Sayısal Elektronik / Digital Electronics	(3,1,0) 3	6	AC	-
EETE152	32724	Bilgisayar Uygulamalari / Computer Applications	(2,3,0) 3	5	AC	EETE101
EETE162	32725	Elektrik Tesisat I / Electrical Instalation I	(2,4,0) 3	7	AC	-
EETEXXX	32726	Elektronik Malzeme Özellikleri/ Properties of Electronic Materials	(3,0,1) 3	5	AC	-
Second Year Fall Semester (19 Credits, 37 ECTS) / İkinci Yıl Güz Dönemi (19 Kredi, 37 AKTS)						
Course Code / Ders Kodu	**Ref. Code / Ref. Kodu**	**Course Name / Ders Adı**	**Credit / Kredi**	**ECTS / AKTS**	**Category / Kategori**	**Prerequisite(s) / Önkoşul**

ENGL271	32731	Teknik Ingilizce I / Technical English I	(3,0,1) 4	5	UC	ENGL172
EETE231	32732	Elektroteknik II / Electronics II	(2,3,0) 3	5	AC	EETE132
EETE233	32733	Mikroişlemciler / Microprocessors	(3,1,0) 3	5	AC	EETE134
EETE261	32734	Elektrik Tesisat II / Electrical Installation II	(2,3,0) 3	5	AC	EETE162
EETE263	32735	Elektrik Makineleri Ve Ev Alatleri / Electrical Machines and Domestic Equipment	(2,3,0) 3	5	AC	EETE143
AE01	32736	Teknik Seçmeli / Technical Elective	(2,0,1) 3	5	AE	-
EETE200	32737	Yaz Stajı / Summer Training	(0,0,0) 0	7	AC	-
Second Year Spring Semester (21 Credits, 30 ECTS) / İkinci Yıl Bahar Dönemi (21 Kredi, 30 AKTS)						
Course Code / Ders Kodu	**Ref. Code / Ref. Kodu**	**Course Name / Ders Adı**	**Credit / Kredi**	**ECTS / AKTS**	**Category / Kategori**	**Prerequisite(s) / Önkoşul**
ENGL272	32741	Teknik Ingilizce II / Technical English II	(3,0,1) 4	5	UC	ENGL271
EETE232	32742	Elektronik III / Electronics III	(2,3,0) 3	5	AC	EETE231
EETE234	32743	Elektronik Atölye / Electronic Workshop	(2,2,0) 3	2	AC	EETE132
EETE262	32744	Elektrik Tesisat III / Electrical Installation III	(2,3,0) 3	5	AC	EETE261
EETE264	32745	Bilgisayar Donanımına Giriş / Introduction To Computer Hardware	(2,3,0) 3	5	AC	EETE152
AE02	32746	Teknik Seçmeli / Technical Elective	(3,0,0) 3	5	AC	-
HIST280	32747	Atatürk İlkeleri Ve İnkilap Tarihi / History	(2,0,0) 2	3	UC	-

Third Year Fall Semester (15 Credits, 30 ECTS) /Üçüncüi Yıl Güz Dönemi (15 Kredi, 30 AKTS)						
Course Code	**Ref. Code /**	**Course Name / Ders Adı**	**Credit /**	**ECTS**	**Category**	**Prerequisite(s)**

/ Ders Kodu	Ref. Kodu		Kredi	/ AKTS	/ Kategori	/ Önkoşul
ELET311	39151	Mikroişlemci Uygulamaları / Microprocessor Applications	(2,3,0) 3	7	AC	-
ELET313	39152	Sayisal Elektronik Uygulamaları / Digital Electronic Applications	(2,3,0) 3	7	AC	-
ELET315	39153	Endüstriyel Elektronik / Industrial Electronics	(2,3,0) 3	7	AC	-
ELET317	39154	Bilgisayar Donanım Uygulamaları / Computer Hardware Application	(2,3,0) 3	7	AC	-
AE 01	39155	Teknik Seçmeli / Technical Elective	(2,1,0) 3	7	AC	-
Third Year Spring Semester (3 Credit, 30 ECTS) /Üçüncüi Yıl Bahar Dönemi (3 Kredi, 30 AKTS)						
Course Code / Ders Kodu	**Ref. Code / Ref. Kodu**	**Course Name / Ders Adı**	**Credit / Kredi**	**ECTS / AKTS**	**Category / Kategori**	**Prerequisite(s) / Önkoşul**
ELET302	39161	Endüstride Staj / Industrial Training in Industry	(0,0,0) 0	16	AC	-
ELET304	39162	Mezuniyet Projesi / Graduation Project	(0,0,0) 3	9	AC	-

AC = Area Core AE = Area Elective UC = University Core

Biomedical Equipment Technology

First Year Fall Semester (18 Credits, 30 ECTS)						
Course Code	**Ref. Code**	**Course Name**	**Credit**	**ECTS**	**Category**	**Prerequisite(s)**
ENGL171	3M711	English - I	(3,0,0) 3	5	UC	-
MATE117	3M712	Mathematics for Electronic Technicians	(3,1,0) 3	5	AC	-
BMET111	3M713	Anatomy and Physiology	(3,0,0) 3	5	AC	-
EETE143	3M714	Electrotechnology	(2,0,3) 3	6	AC	-
EETE101	3M715	Introduction to Computer	(2,2,0) 3	5	AC	-
BMET165	3M716	Microbiological Risk	(3,0,0) 3	4	AC	-
First Year Spring Semester (18 Credits, 32 ECTS)						
Course Code	Ref. Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
ENGL172	3M721	English - II	(3,0,0) 3	5	UC	ENGL171
EETE132	3M722	Electronics - I	(2,0,3) 3	6	AC	-
EETE134	3M723	Digital Electronics	(3,1,0) 3	6	AC	-
EETE152	3M724	Computer Applications	(2,0,3) 3	5	AC	EETE101
BMET112	3M725	Medical Instrumentation - I	(2,0,3) 3	5	AC	-
EETEXXX	3M726	Elektronik Malzeme Özellikleri/ Properties of Electronic Materials	(3,0,1) 3	5	AC	-
Second Year Fall Semester (18 Credits, 39 ECTS)						
Course Code	Ref. Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
EETE231	3M731	Electronics - II	(2,0,3) 3	5	AC	EETE132
EETE233	3M732	Microprocessors	(3,0,1) 3	5	AC	EETE134
BMET251	3M733	Medical Instrumentation - II	(3,0,1) 3	6	AC	BMET112
BMET252	3M734	Fault Analysis in Biomedical	(3,0,1) 3	5	AC	-

		Systems				
BMET253	3M735	Medical Imaging Systems	(3,0,0) 3	6	AC	-
BMET268	3M736	Medical Service Documents	(3,0,0) 3	4	AC	-
BMET200	3M737	Summer Practice	(0,0,0) 0	8	AC	-
Second Year Spring Semester (8 Credits, 21 ECTS)						
Course Code	Ref. Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
BMET262	3M741	Biomedical Signal Processing	(2,0,3) 3	6	AC	EETE231
BMET264	3M742	Medical Applications	(0,0,0) 3	12	AC	-
HIST280	3M743	Atatürk`s Principles and History of Turkish Reforms	(2,0,0) 2	3	UC	-

Third Year Fall Semester (15 Credits, 33 ECTS)						
Course Code	Ref. Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
EETE311	3M751	Microprocessor Applications	(2,0,3) 3	7	AC	-
EETE315	3M752	Industrial Electronics	(2,0,3) 3	7	AC	-
BMET301	3M753	Laser and Medical Applications	(3,0,0) 3	7	AC	-
BMET303	3M754	Hospital Organization and Management	(3,0,0) 3	7	AC	-
EETE268	3M755	Introduction to Telecommunications	(3,0,0) 3	5	AC	-
Third Year Spring Semester (6 Credits, 27 ECTS)						
Course Code	Ref. Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
BMET302	3M761	Medical Training	(0,0,0) 0	13	AC	-
BMET304	3M762	Laboratory Support Equipment	(3,0,0) 3	7	AC	-
BMET306	3M763	Diagnosis and Tracking Devices	(3,0,0) 3	7	AC	-