ASIIN Seal & EUR-ACE Labels

Accreditation Report

Bachelor's Degree Programme
Industrial Engineering
Computer Engineering
Electrical & Electronics Engineering

Provided by
Girne American University

Version: 23 June 2023

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]
Computer Engineering, B.Sc.		ASIIN, EUR-ACE® Label	ASIIN, 2013-2019 (one year extension)	02, 04
Electrical & Electronics Engineering, B.Sc.		ASIIN, EUR-ACE® Label	ASIIN, 2013-2019 (one year extension)	02
Industrial Engineering, B.Sc.		ASIIN, EUR-ACE® Label	ASIIN, 2013-2019 (one year extension)	06
Date of the contract: 09.04.2018 **Submission of the final version of the self-assessment report:** 26.04.2019 **Date of the onsite visit:** 14.-15.05.2019 **at: Girne American University, North Cyprus**				
Peer panel: Prof. Madhu Chandra, Technical University Chemnitz; Prof. Jörg Desel, Fern-Universität Hagen; Alexander Müller, Maxam Deutschland GmbH; Cihan Unal, Eastern Mediterranean University;				

[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 04 - Informatics/Computer Science; TC 06 - Industrial Engineering.

Dexter Chipango, Lefke European University.	
Representative of the ASIIN headquarter: Dr. Martin Foerster	
Responsible decision-making committee: Accreditation Commission for Degree Programmes	
Criteria used: European Standards and Guidelines as of 15.05.2015 ASIIN General Criteria, as of 10.03.2015 Subject-Specific Criteria of Technical Committees 02 – Electrical Engineering as of 09.12.2011, 04 – Informatics as of 09.04.2018 and 06 – Industrial Engineering as of 09.12.2011.	

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
Computer Engineering	B.Sc.	-	6	Full time	-	8 Semester	240 ECTS	Fall and Spring / 1992
Electrical & Electronics Engineering	B.Sc..	-	6	Full time	-	8 Semester	240 ECTS	Fall and Spring / 1992
Industrial Engineering,	B.Sc.	-	6	Full time	-	8 Semester	240 ECTS	Fall and Spring / 1992

For the Bachelor's degree programme Computer Engineering the institution has presented the following profile on the Faculty website (accessed 21 May 2019: http://engineering.gau.edu.tr/en/departments.html):

„In the last few decades, computer, internet and software based innovations have changed tremendously the way we live. It is expected that, Computer Engineering will be one of the fastest growing, leading occupations in the future of professions. Due to this rapid growth, Computer Engineering offers the promising jobs for those trained with computer based skills.

The main aim of our department is to prepare our students to be able to adapt themselves to new and improving technologies in whatever career path they choose to pursue. Our program provides the students with an excellent foundation of many areas in Computer Engineering including computer networks, computer software, database systems, computer architecture, hardware and operating systems. In addition, the program offers a solid scientific base for students so that they will demonstrate initiative and perform leadership in an ethical manner in engineering and other diverse careers.

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

Some working areas of our graduates are as follows:

Communications and networking, IT departments, research and development centers, software design companies, etc. “

For the Bachelor’s degree programme Electrical Engineering the institution has presented the following profile on the Faculty website (accessed 21 May 2019: http://engineering.gau.edu.tr/en/departments.html):

“The main aim of the Electrical-Electronic Engineering programme is to offer high quality contemporary education at the undergraduate level. The programme not only focuses on setting up a strong engineering background needed in the field of electrical and electronics engineering, it also encourages students to develop initiative capabilities and personal responsibility with an ability to communicate, to work in teams and to understand the broad implications of their work. The balanced, integrated curriculum provides an education, which is strong both in the fundamentals and in state-of-the-art knowledge, appropriate for immediate professional practice as well as graduate study and lifelong learning.”

For the Bachelor’s degree programme Industrial Engineering the institution has presented the following profile on the Faculty website (accessed 21 May 2019: http://engineering.gau.edu.tr/en/departments.html):

“The Industrial Engineering Department offers a BSc degree in Industrial Engineering. Industrial Engineering aims to prepare the student for the application of engineering methods and the principles of scientific management to the design, improvement, and installation of integrated systems of people, materials, information, equipment, and energy.

The industrial engineer is concerned with the design of total systems, and is the leader in the drive for increased productivity and quality improvement. Our programme provides the students with an excellent foundation of many areas including the mathematical, physical, and social sciences, together with the methods of engineering analysis and design. Our programme also encourages the students to gain interpersonal, leadership and communication skills by course and graduation projects involving teamwork and on-site applications.

Although industrial engineering is especially important to all segments of industry, it is also applied in other types of organisations, such as health care, public utilities, agriculture, transportation, defence, government, and merchandising. Industrial engineering is finding increasing application in service industries. With increasing emphasis on quality and

productivity for successful international competition, it is expected that our graduate industrial engineers will be in increasing demand in the coming decades, with their knowledge, skills and competences.

Some working areas of our graduates are as follows:

Aerospace & airplanes, aluminium & steel industries, banking, materials testing, medical services, military, construction, consulting, mining, oil & gas industries, forming, electronics assembly, energy, retail, ship building, insurance, state government, transportation, etc.”

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:

- Self-Assessment Report
- Diploma Supplements
- Faculty Website (for all programmes) (accessed 21 May 2019: http://engineering.gau.edu.tr/en/departments.html)
- On-site discussions

Preliminary assessment and analysis of the peers:
The peers verified that learning outcomes have been defined and published in the same form as they have been outlined in the self-assessment report for the review process. Thus, learning outcomes and programme objectives have been defined for all programmes of the Engineering Faculty in general and for each programme in particular. These learning outcomes are accessible to all those interested in the programme via the Faculty website and are further communicated through the Diploma Supplements.

Based on the provided information the peers could evaluate that all programmes of the Faculty of Engineering aim at conveying nine common programme objectives that cover engineering-specific aspects such as the basic knowledge of mathematics, science and engineering, the ability to understand and interpret data or the use of techniques, skills and modern engineering tools necessary for engineering practice. They also include non-subject-specific elements such as working in teams and expressing ideas and findings in written and oral form. The peers appreciated these nine common objectives as they generally ensure that all graduates of the engineering programmes will have gained basic fundamentals in the disciplines as well as foundations of scientific work.

[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.

In addition to these nine common learning objectives, each programme summarized further two subject-specific learning outcomes. In the case of the Electrical and Electronics programme, the peers understood that graduates should have acquired strong foundations on the fundamentals of Electrical and Electronics Engineering such as Circuit Theory, Signals, Systems, Control and Communications. Furthermore, they are supposed to be made aware of the contemporary requirements, methods and applications of the field. Although these learning outcomes appeared to the peers quite generic, they generally agreed with their covering the most important aspects of the programme.

Similarly, for the Industrial Engineering programme it was defined that graduates should be able to apply production planning, quality planning and control techniques for system improvement in the light of the contemporary Industrial Engineering techniques. They should also have the capability of improving system performances using fundamentals of work-study, ergonomics, and production systems techniques. As with the Electrical Engineering programme the peers agreed that these two subject-specific learning outcomes are generic but do include the relevant aspects of a Bachelor's programme in Industrial Engineering.

For the Computer Engineering programme, however, the peers were of the opinion, that the defined two subject-specific learning outcomes did not grasp the whole aspects of the learning outcomes graduates of such a programme should have gained. This is partly due to the difficulty that Computer Engineering can have very divergent characters ranging from more Software-oriented programmes to more Hardware-oriented programmes. From the defined learning outcome that graduates should have the ability to apply design and development principles in the construction of software systems it did not become clear to the peers which special focus the programme has nor does it cover the most relevant aspects of the Subject-Specific Criteria of ASIIN. The second learning outcome, that students should be enabled to find appropriate technical information to solve computer engineering problems was considered to be less informative since it did not refer to any specific content or skill provided by the programme itself. Hence, the peers agreed that these learning objectives need to be more precise in order to cover the Subject-Specific Criteria and to convey a comprehensive impression of the graduates' qualification to all those interested in the programme. Especially since the programme could focus on two quite different aspects in Computer Engineering it is also necessary to indicate more clearly in the learning outcomes what specific job profile is envisaged by the programme in order to avoid misunderstandings with potential applicants or employers.

Consequently, the peers concluded that the general learning outcomes of the programmes with the restriction of the subject-specific learning outcomes of the Computer Engineering programme are in line with the EQF-Level 6 for Bachelor programmes. They also agreed

that they equally fulfil the requirements of the ASIIN Subject-Specific Criteria as well as the criteria for learning outcomes defined for the EUR-ACE Label with some reservations in the case of the Computer Engineering programme.

Criterion 1.2 Name of the degree programme

Evidence:

- Self-Assessment Report
- Diploma Supplements
- Faculty Website (for all programmes) (accessed 21 May 2019: http://engineering.gau.edu.tr/en/departments.html)

Preliminary assessment and analysis of the peers:
The panel considered the names of the study programmes to be adequately reflecting the respective aims, learning outcomes and curricula.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Diploma Supplements
- Faculty Website (for all programmes) (accessed 21 May 2019: http://engineering.gau.edu.tr/en/departments.html)
- Annex 2: Module Handbook
- Annex 4: Curricula of degree programmes
- On-site discussions

Preliminary assessment and analysis of the peers:
The curricula of both programmes under consideration were reviewed by the panel in order to evaluate whether the described learning objectives can be achieved by the available modules. Course descriptions as well as a matrix matching the general learning objectives and the module contents were also presented for a detailed analysis.

From the curricula the peers understood that all engineering programmes share a certain core of basic subjects in Natural Sciences, Mathematics and Engineering. Due to requirements of the Turkish national accreditation, all engineering programmes need to include

courses on Physics, Chemistry and Mathematics. Turkish students also have to take compulsory courses in Turkish language and history, international students may choose from other electives. Starting from the third semester all programmes offer subject-specific modules and during the fourth year usually comprise a significant number of electives for the individual specialization of the students. In the final two semesters each programme also comprises a Graduation project distributed over two courses in the seventh and eighth semester at a total amount of 12 ECTS-credits. Concerning the practical experience, all engineering students also have to pass a summer training in the seventh semester of at least 30 working days.

In the case of the Computer Engineering programme it has already been pointed out that this denomination could comprise of two quite different sets of learning outcomes and thus curricula. From the documents of the previous accreditation the peers gathered that this aspect was already discussed five years ago and that a clarification of the curriculum either in one or the other direction should ensue. It was understood that the focus of the programme was supposed to be on hardware and engineering since the programme also applied for a EUR-ACE label. However, several of the subject-specific courses included in the curriculum were pointing to a more Software oriented programme. Reviewing the documents now revealed that little has been changed in the core curriculum. During the discussion with the programme coordinator the peers learned that a significant reform of the curriculum has been conceptualized in the aftermath of the previous accreditation. The designed curriculum was presented on-site to the peers and they agreed that with this reform the uncertainties would have been clarified (now including core courses such as Programming I and II, Operating Systems and Data Structures and Algorithms). They could understand even less why this reform has not been carried out. In an answer to this the peers were informed that the reform was declined by the ultimate University body who was not able to provide for the then required higher amount of staff. The programme coordinator made clear that a serious curriculum reform would imply that old and new curriculum would have to be taught for several years since the students had a right to complete their studies in the curriculum they had started. With the lacking funds the only option remaining had been to introduce some of the required new courses as electives for the existing curriculum. Nonetheless, many of the theoretically available elective courses can be offered only rarely since the required staff is no longer or only at certain intervals available. Only some of the planned new courses can be offered as electives on a regular basis each semester. Although the peers understand the difficult general situation of the University and the Country regarding finances and human resources they emphasize that the designed

reform needs to be carried out in order to make the curriculum meets the envisaged learning outcomes and international standards. As a minimum the four regular elective courses have to integrated as core elements into the curriculum.

The Electrical and Electronic Engineering programme has equally not undergone significant modifications since the previous accreditation. However, the peers detected that several fundamental aspects of the programme and learning outcomes are not covered by the basic curriculum. As it turned out during the discussion with the programme coordinator some of the aspects such as Antennas and Wave Propagation or Micro-Electronics would be covered by electives but the students mentioned that such courses had never actually been offered. The point was further discussed with the teaching staff who admitted that these courses were not very much requested by the students and therefore had not been offered for several semesters. Indeed, the peers realized that not even an up-to-date module description existed for these courses. In consequence, they emphasized that in order to comply with the self-defined learning outcomes and the Subject-Specific Criteria of ASIIN these topics must be covered by the curriculum in the form of core modules despite the majoritarian student interest in other fields such as power engineering.

Different to the other two programmes, the Industrial Engineering programme did not present significant discrepancies from the defined learning outcomes. The peers understood form the documents that students get acquainted with the fundamentals in engineering, natural sciences and mathematics as in the other programmes and additionally take mandatory introductory courses economics. In the third study year this is followed by more subject-specific courses such as Fundamentals of Work Study, Operations Research or Engineering Statistics. As with the other programmes, the final year is mostly reserved for electives to allow for an individual specialization, the summer training for practical experience and the graduation project. The peers agreed that this curriculum was basically suitable for the conveyance of the programme learning outcomes. They only pointed out that the economic content is reduced in comparison to the engineering content, covering only two to three core modules. Discussion with the students and programme coordinator revealed that economic contents are being dealt with also in engineering courses when this is suitable and additional electives are being offered with a singular economic focus. Thus, they peers could agree to the suitability of the curriculum as long as the electives are actually being offered on a regular basis as will be discussed later on.

It was mentioned that all curricula comprise a number of non-subject-specific courses and electives that are partly required by the Turkish national accreditation. The peers understood this general circumstance but also identified that neither in the core curricula nor in the electives subject-specific English language courses are offered. Since the programmes are all taught in English language they thought it might be helpful to offer such courses,

especially since the vast majority of the students does not speak English as a mother language. Speaking of the elective courses it was already pointed out that all three curricula offer a long list of electives out of which students may choose. However, the students complained during the discussion that many of these electives are only offered theoretically and discussion with the teaching staff showed – as outlined above – that some courses cannot actually be offered due to missing staff. In consequence, the peers consider it absolutely necessary that only those electives are being presented on the faculty website and to the students that are actually offered on a regular basis. Module descriptions of these electives have to be kept up-to-date and should be made accessible online to all students for a transparent and comprehensive information. If it is clear for staff or other reasons that electives will not be offered in a short while this must be communicated to the stakeholders.

Eventually, the importance of scientific research aspects was discussed with the programme coordinators. It was considered a positive development that all curricula meanwhile include graduation projects of a significant amount of ECTS-credits and that it is aimed at cooperation with industry in order to have the projects prepared along relevant topics for future employers. While this proves to be difficult as will be discussed later on, the programme coordinators admitted that the scientific level of the project papers could still be further improved. Together with the peers they discussed the possibility to introduce a mandatory module on scientific research within the first three years of the programmes. However, due to the number of courses required by the Turkish national accreditation the peers understood that there is little room for such an additional module in the curricula. Further, they did not consider this problem to be a pressing one since the quality of the papers is generally on an acceptable level.

In conclusion, the peers agreed that at least the curricula of Electrical Engineering and Computer Engineering require significant modifications. In the case of Computer Engineering the reform plan presented pointed in the right direction but requires implementation in order to ensure that international standards in learning outcomes can actually be achieved.

Criterion 1.4 Admission requirements

Evidence:

- Self-Assessment Report
- Faculty Website (for all programmes) (accessed 21 May 2019: http://engineering.gau.edu.tr/en/departments.html)
- Annex 12: Higher Education Law, North Cyprus

- On-site discussions

Preliminary assessment and analysis of the peers:
Admission to the three programmes under review is based on the national legislation and generally differentiates between Turkish applicants and other international applicants. Since the programmes have a national Turkish accreditation they are eligible by students on the national Turkish student placement procedure. All high school graduates have to pass the nationally administered Undergraduate Placement Examination (TYT). Based on their grades in different categories they are allowed to study certain programmes in indicated institutions. As for all programmes, applicants to the programmes need to have an English language certificate. Those students directed towards the programmes via the TYT usually receive national scholarships based on the reached points. Depending on the score these scholarships provide for a period of study ranging from four to seven years. The best applicants may thus study up to seven years on government funding. For the other international candidates the University largely relies on the national high school examinations, ranked according to NARIC-UK. This database allows for a rough estimation and comparability of national high school graduate levels. In any case, the peers understood that about 80% of the applicants are actually accepted with most of the applicants having to pay the student fees out of their own pockets. The peers wondered if the very heterogeneous educational background of the students actually allows for a successful study progress and were confirmed in their assumption that it is often challenging. However, the application criteria are generally transparent, despite the fact that the peers doubt the equal pre-qualification of students for the programmes under review.

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

The peers approve of the modifications already initiated by the HEI in the description of learning objectives in the Computer Engineering programme. Nevertheless, they still emphasize that these modifications need to be represented in the curriculum. Since the HEI generally agrees in its comments with the assessment of the peers the remarks remain valid until further evidence of change is produced. Consequently, the peers consider the criterion to be partly fulfilled.

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Self-Assessment Report
- Faculty Website (for all programmes) (accessed 21 May 2019: http://engineering.gau.edu.tr/en/departments.html)
- Annex 2: Module Handbook
- On-site discussions

Preliminary assessment and analysis of the peers:
All study programmes under review are divided into modules, which comprise a sum of teaching and learning. In general, the panel found the structure of the modules to be adequate and manageable. The existence of a sufficient number of electives (if they are actually offered) further ascertains that an individual specialization of the students can take place throughout the programmes. The summer training included in the seventh semester also guarantees that students of the Bachelor programmes get into contact with industry and are well prepared for pursuing a professional career of completing their degree.

A challenging aspect of higher education in North Cyprus in general is the cooperation with industry and the organization of work placements. The country itself does not provide a significant industrial sector where students could find work placements. In addition, the majority of the students has an international background, speaks only little Turkish and is thus further disadvantaged. In the case of Industrial Engineering the students also remarked, that for reasons unknown their summer training is restricted to manufacturing enterprises. Internships in banks, service providers or other companies are apparently excluded making the search for a placement within Northern Cyprus near to impossible. The peers could not understand this restriction and strongly recommended to open up the summer training to all possible sectors.

They further recommended to continue in the faculty's endeavour to establish firm co-operations with industry partners, if possible even in mainly Turkey, where students can find placements on a regular basis. This will facilitate the whole procedure for the students as well as for the programme teaching staff that has to ensure the quality of the training tasks.

Concerning internationalization, the peers clearly saw that by offering English speaking programmes the University is open to students from all over the world. The University administration is well prepared to attract potential students especially from Africa and Asia but is also engaged in international partnerships and co-operations with European and Ameri-

can Universities. Thus, despite the restrictions imposed in North Cyprus for political reasons, certain offers of international mobility are made to the students and the recognition and transfer of credit points is transparently regulated by the University administration.

Criterion 2.2 Work load and credits

Evidence:

- Self-Assessment Report
- Annex 2: Module Handbook
- On-site discussions

Preliminary assessment and analysis of the peers:
The modules in all three degree programmes under review are awarded national credits based on the amount of contact hours with the teaching staff, ranging between three and four credits per module. At the same time, the University provides a calculation of ECTS-credits for each module based on the total workload of the students incorporating presence hours in class as well as self-study time. Thus, the numbers of ECTS-credits range between five and seven per module, amounting to 30 ECTS-credits per semester and a total of 240 ECTS-credits for the entire programme.

The discussion with the students on-site revealed, however, that they had no idea what a ECTS-credit is nor how the workload of their courses is defined. They admitted that the workload was in general bearable depending on the individual students but in the regular case left sufficient time for non-curricular activities. In the opinion of the students, completing the programmes within the eight semesters indicated was not a problem. Although the peers did not see a serious issue regarding the workload they were astonished the see that the students were not informed about the concept of workload calculation, nor was there any assessment of student workload or adaption of credits in case of necessity. As will be discussed later on, they learned from the University administration that currently the entire quality management system has been in a state of decline for some time; therefore, an assessment of student workload via a course evaluation is not carried out. The peers underlined that despite the fact that the students did not complain about workload, it has to be made transparent to them how the numbers of credits are awarded to them and a system of workload assessment needs to be established in order to review the distribution of workload to the respective modules. In addition, a procedure has to be established how the administration reacts to any detected incongruities in the calculation of workload and credit distribution.

Criterion 2.3 Teaching methodology

Evidence:

- Self-Assessment Report
- On-site discussions

Preliminary assessment and analysis of the peers:

It has already been outlined that teaching in all programmes includes theoretical foundations as well as practical work, which was welcomed by the peers. In general, teaching includes lectures, classroom exercises, tutorials, group exercises, laboratory work, as well as group work and individual projects. From the discussion with the teaching staff it also became apparent that the teachers make regular use of the online learning platform Moodle where reading material, exercises and quizzes are administered to the students. While the peers appreciated the general dedication of the teaching staff to their task it was also mentioned, that the heterogeneity of the students poses a challenge that is often difficult to meet. As has been outlined before admission criteria for the students are quite liberal; therefore, especially in the first semesters, the teachers have to deal with great differences in pre-knowledge among their students. Thus, the peers consented in the expressed wish for a more constantly provided offer of didactical training and support which is currently only offered from time to time. In order to ensure that all teaching staff members keep up with modern pedagogical developments and receive support in their struggle to bring all students to the required level the faculty or the University should establish a regular training programme.

Criterion 2.4 Support and assistance

Evidence:

- Self-Assessment Report
- On-site discussions
- Websites (accessed 27.05.2019):
    - International Office: http://abroad.gau.edu.tr/?_ga=2.61638508.1342240872.1558945372-1134763823.1558424209

- Student Accommodation: http://dorms.gau.edu.tr/?_ga=2.224322139.1342240872.1558945372-1134763823.1558424209
- Career and Alumni Centre: http://career.gau.edu.tr/?_ga=2.224322139.1342240872.1558945372-1134763823.1558424209

Preliminary assessment and analysis of the peers:
Studying in a Northern Cypriot University is usually a private enterprise for which students (especially from outside Turkey) have to pay significant tuition fees amounting to about 5.500 EUR per academic year. In return, the students expect and often receive comprehensive support and assistance in all matters private as well as academic. From the discussions and the documents the peers gathered that the University clearly cares for the well-being of their students, providing them with lot of support concerning immigration, housing, health-care, and even offers several campus restaurants with different international cuisine.

While all this appeared to be as would have been expected from a private University, the peers also gained the impression that the support and assistance concerning academic matters is less comprehensive. They did not doubt that students could approach the professors at any time with questions and there is also an international student office always available for any kind of request, but it became apparent that the institutionalization of support is currently not as developed as had been expected. Generally, it was confirmed that students that require something, show initiative and energy can usually find the support they need; but this is not offered on a systematic basis to all students nor is it transparently communicated to everyone. This way, the peers feared that especially weaker student might be left behind because they simply do not request support. This lack of institutionalization became obvious with various points: For example, students mentioned that individual access to laboratories is often restricted due to lack of lab supervisors. To this the teaching staff explained that labs were always open to students as long as they approached them; since they generally trusted their students, they would open up the labs and let them work there alone. As another example the programme coordinators outlined that every staff member has a list of students for whom he acts as a personal tutor. Without his support the students could not take courses but the tutor would also be available for any other kind of academic or even personal support. The peers appreciated this support model but asking the students they were informed that they had never heard of the existence of a tutor or personal supervisor. While this does not mean that they do not do their work it appeared to the peers that their offer should at least be better communicated to the students. All of this, together with the current missing of course evaluations or other

institutionalized student surveys makes it difficult to detect lack of support or to identify how to better assist students in their learning process.

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

In its comments the HEI agrees with the assessment of the peers who consider the criterion to be partly fulfilled.

3. Exams: System, concept and organisation

Criterion 3 Exams: System, concept and organisation

Evidence:

- Self-Assessment Report
- Annex 2: Module Handbook
- Annex 7: Rules and Regulations for Graduation Projects
- On-site discussions

Preliminary assessment and analysis of the peers:

Each course-content in the reviewed study programmes is reflected in exams, which are distributed in a mid-term and a final examination period each semester. Information about the examination form and date is given at the latest at the beginning of the semester and the students feel well informed about exams and their regulations in general. From the discussions on site it became clear that exams are usually in a written form despite the fact that other examination forms would be theoretically possible.

From discussion with students and teaching staff the peers learned, that presentations have to be given by the students individually and in groups in several modules and especially as part of the graduation project. However, oral exams are usually not part of the examinations, mostly due to the limited staff available. The teachers pointed out that oral exams would only be possible with smaller students groups as they currently are. Despite this issue the peers underlined that to train students in oral examinations could be an important improvement in the examinations in order to ensure that students not only learn information but to check if they are enabled to process this information in a free conversation and to spontaneously react to requests from teachers as well as future clients.

Concerning the quality level of exams the peers reviewed a number of written exams as well as graduation project reports. Although the programme coordinators remarked before that they were not as content with the scientific level of the graduation project reports the peers did not see their level as critical. In general, the examples provided were solid in knowledge, description and analysis although – as outlined before – the scientific research level may still be enhanced. In any case, the peers appreciated that clear and transparent rules for the preparation of the graduation project have been enacted and that students feel well-informed about the procedures. Furthermore, although the projects are often performed in group works it is made certain that each students has a clearly identifiable part in the project on which he also files the report and make a final oral presentation. Thus, it is ensured that each student receives a grade based on his individual performance.

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

The peers consider the criterion to be largely fulfilled.

4. Resources

Criterion 4.1 Staff

Evidence:

- Self-Assessment Report
- Annex 8: Staff Handbooks
- On-site discussions

Preliminary assessment and analysis of the peers:

From the previously checked documents and the discussions during the site visit the peers gained an impression of the quantity and quality of the available teaching staff of all three degree programmes. Thus, there are 38 members of the academic staff active in the programmes including five full professors, six associate professors and 14 assistant professors. The teaching load for staff members ranges between 12 credit hours (Cypriot system) for full professors and 18 credit hours for lecturers and assistant professors.

While the peers agreed with the programme coordinators that the available staff is generally sufficient and adequately qualified to ensure the teaching of the three programmes under review, they could also comprehend the critical remarks pointing toward a limitation of human resources. They understood, that the current staff is only sufficient to maintain

the programmes as they are but that consequently no changes or expansions are possible as was outlined for example with the reform of the Computer Engineering programme. It was also apparent, that many of the electives that were originally planned for the programmes cannot be offered with a certain regularity because of the lack of staff. The reviewers understood that a high mobility of teaching staff during the past five years due to political and general economic circumstances further contributed to these difficulties. Especially the financial problems related to currency inflation has reduced the attractiveness of the offered positions or resulted in staff members leaving the University.

In conclusion, the peers were certain that the staff available at the moment suffices to support the programmes as they are. However, since they have pointed out earlier that certain reforms in the curricula of Electrical Engineering and Computer Engineering need to be implemented, a certain increase in staff members appears to be unavoidable.

Criterion 4.2 Staff development

Evidence:

- Self-Assessment Report
- On-Site Disussions

Preliminary assessment and analysis of the peers:
It was already described that the staff development offers regarding didactical or pedagogical skills has been quite limited during the past years. From time to time international experts are hired to give training courses at the University but the peers did not gain the impression that this was a regular feature. Moreover, due to a lacking evaluation system the needs for didactical development currently cannot be detected. Apart from didactical training, Higher Education Institutions are supposed to take into account the academic development of their teaching staff members, especially regarding research activities.

During the discussions on-site, however, it became clear to the peers that research activities are very scarce in the programmes under review, mostly due to the high amount of teaching load. Although the University offers certain incentives for research activities such as publications of papers but this is not a regular case. With up to 18 credit hours per week in teaching load most staff members are fully occupied with sustainment of the programmes. The peers understood, that the University and faculty generally do acknowledge the importance of combination of research and teaching but at the moment this I not happening in the targeted dimension. In order to further develop the programmes (in a curricular sense) as well as the teaching staff (regarding research and didactical skills) an increase

in staff members will be necessary within the years to come, most importantly if the requested core courses in Electrical Engineering and Computer Engineering should be introduced. Consequently, the peers support the programme coordinators and faculty administration in their endeavour to strengthen the core staff.

Criterion 4.3 Funds and equipment

Evidence:

- Self-Assessment Report
- Anne 9: Engineering Faculty Laboratories
- Tour of the Laboratories
- On-Site Disussions

Preliminary assessment and analysis of the peers:
During the on-site visit the peers inspected the research and teaching facilities of the Faculty of Engineering. In addition, they received a description of all facilities, software, libraries, etc. with the written documentation. The funds for the performance of the degree programmes come almost entirely from tuition fees as has been outlined above. These are generally adequate to perform the programmes to a satisfactory level. However, it has already been outlined that due the currency crisis of the Turkish Lira and the fact that Turkish students pay their tuition fees in Lira and not in Euro, the financial capacity of the Faculty and the University in general has been facing some difficulties.

Apart from these general observations, the peers saw that the equipment for Industrial and Computer Engineering was generally suitable for the performance of courses on Bachelor level. In the case of the Electrical Engineering programme they pointed out, that the current equipment is of a rather basic standard. This would be adequate for the conveyance of fundamental skills and knowledge but was seen critical when it comes to more advanced topics and research during the final stages of the Bachelor programme. In any case, the equipment presented for this programme was not considered sufficient in order to allow further research projects by students as well as teaching staff. Thus, if the faculty wants to attract future staff members and strengthen the research capacity of the staff at the same time, the equipment needs to be enhanced accordingly. Similarly, a development of the curriculum including those aspects required by the subject-specific criteria of ASIIN as for example the already mentioned module on Antennas and Waves would not be possible with the equipment currently at hand.

Another point raised by the students was a general desire for more accessible computer software, different for all three degree programmes. Interestingly, the discussion with the teaching staff revealed, that most of the requested software is actually available in several laboratories or on library computers. Hence, the peers did not necessarily see an urgent demand for enhanced equipment but underlined again that the already available offers should be better communicated to the students who are apparently unaware of them. It should not be waited for committed students to ask for certain software usage but students should be encouraged on a regular basis by student support unities as well as during courses to use the available software at any time.

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

The HEI agrees in its comments with the assessment of the peers. Consequently, the criterion is considered to be partly fulfilled.

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:

- Annex 2: Module Handbook

Preliminary assessment and analysis of the peers:

The peers appreciated the module descriptions presented beforehand with the self-assessment report. The descriptions presented give full information about the courses, contents, learning outcomes, examination types, expected workload, awarded credits and recommended literature. However, no module descriptions were presented for the majority of the elective courses amounting to a list of roughly 60 modules. As it turned out during the discussions on-site, for some modules that have not been offered in a while or are not being offered anymore, no module descriptions exist or they are not being updated. Since the peers requested a revision of the curricula of the Electrical and Computer Engineering programmes and the adaptation of the electives list, they currently do not see the necessity of demanding workload descriptions for modules that maybe are not even offered anymore and will not be offered again. However, they strongly emphasize that for all elective courses that are offered on a regular basis up-to-date module description have be made available for the students and all interested stakeholders.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Anne 15: Diploma Supplements

Preliminary assessment and analysis of the peers:
At graduation, all students are provided with a diploma and a Diploma Supplement in English language. The Diploma Supplement gives all required information about the degree programmes, the individual study performance, the selected courses, a relative grade of the student and an overview over the Northern Cypriot system of higher education.

Criterion 5.3 Relevant rules

Evidence:

- Annex 7: Rules and Regulations for Graduation Projects
- Annex 12: Higher Education Law, North Cyprus
- Annex 13: Rules, Regulations and Forms
- Annex 14: Rules and Regulations for Summer Training

Preliminary assessment and analysis of the peers:
From the documents provided and the discussions during the on-site visit, the peers learned that the all required rules and regulations are made accessible to students at any time online and handed out at the beginning of the study programme and courses respectively. The discussion with the students confirmed that they felt generally well informed about regulations and comfortable about the access to any information about their degree programmes.

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

The criterion is considered to be fulfilled.

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Annex 10: Quality Assurance Regulations
- Annex 11: Surveys
- On-Site Discussions

Preliminary assessment and analysis of the peers:

During the discussions of the on-site visit the peers were informed that the quality management system that had been installed in the faculty of Engineering as well as for the University around the previous accreditation has largely come to a stop during the past three years. They welcomed the initiative of the University representatives to take up the matter again now with the intention of establishing a centralised approach to quality assurance but as far as they understood no form of institutionalized quality management currently exists. The University representatives admitted that a survey of students is performed online mandatorily if the students want to know their grades but no analysis of the data thus gathered happens. Neither is the data analysed on a Faculty level nor do the teachers or students receive any feedback on the information provided. Consequently, a quality management cycle is not in place. Discussion with the students affirmed that they do not feel represented in any institutionalized way, nor do they think that their feedback is leading to any development on institutional level. They confirmed that they could always approach their teachers if they were in need for support or had any kind of ideas but an institutionalized feedback system does not exist.

In the eyes of the peers this is the reason for several of the detected issues since without an institutionalized feedback and development cycle those in charge of the programmes will not be informed about any opinions deviating from their own. Consequently, the peers highlight that such a system must be installed under participation of all relevant stakeholders.

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

In its comments the HEI emphasizes that the description of the Quality Management system as come to a stop is not correct. The peers completely agree that Quality Management does play a vital role at Girne American University insofar as the individual taking care of students is taken very seriously. Nevertheless, the HEI does agree with the assessment that the institutionalized Quality Management system, the collection and use of student data and the establishment of closed Quality Assurance cycles has been in decline for the past years. Thus, the peers maintain their remark that such a system of closed feedback cycles

needs to be installed and taken care of as is envisaged by the University. In conclusion, the peers consider the criterion to be partly 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 Higher Education Institution on the previous chapters of this report:

No additional documents needed.

E Comment of the Higher Education Institution (19.07.2019)

The following quotes the comment of the institution:

„Regarding the programme outcomes: We agree on the opinion of peers that some programme outcomes of Industrial Engineering and Electrical-Electronics Engineering programmes are 'generic'. We should discuss this issue within the faculty and with our stakeholders. Then we may update them.

Programme specific outcomes of Computer Engineering programme which is mentioned in the report are not the correct ones:

- Ability to apply design and development principles in the construction of software systems
- Ability to find appropriate technical information to solve computer engineering problems

These two outcomes were updated previously. All syllabuses (module handbook) of the Computer Engineering Programme include with the updated versions of these programme specific outcomes. But the web page is not updated. The correct ones, which are available in module handbook, are as the following:

- To apply fundamental concepts of software design, database design, data processing and artificial intelligence in the modeling, designing, implementing, testing and deploying software solutions.
- Ability to analyse and design hardware systems by applying the principles of embedded systems, microprocessors, computer networks, distributed systems and data communication

Quality Management

This statement is inaccurate: 'During the discussions of the on-site visit the peers were informed that the quality management system that had been installed in the faculty of Engineering as well as for the University around the previous accreditation has largely come to a stop during the past three years.'

Quality management system at GAU has never come to a stop. There has always been an accreditation office and staff working on accreditation and quality assurance issues with the related faculties. However there has been deficiencies in the Quality Assurance system during the past few year. During the 2018-2019 academic year we have started working on identifying our weaknesses and we came up with an action plan to be implemented in the 2019-2020 academic year to improve these weaknesses.“

F Summary: Peer recommendations (24.07.2019)

Taking into account the additional information and the comments given by the HEi 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 accreditaiton
Ba Industrial Engineering	With requirements for one year	EUR-ACE	30.09.2025
Ba Computer Engineering	With requirements for one year	EUR-ACE	30.09.2025
Ba Electrical and Electronics Engineering	With requirements for one year	EUR-ACE	30.09.2025

Requirements

A 1. (ASIIN 6) A quality management system with a closed feedback cycle has to be established.

A 2. (ASIIN 2.2; 6) An assessment of the student workload needs to be established and the students' awareness of the ECTS system and workload calculation has to be increased.

A 3. (ASIIN 1.3) It must be ensured that electives announced on the website are actually offered at regular intervals.

For the Bachelor Electrical and Electronics Engineering

A 4. (ASIIN 4.3) The equipment for teaching and research has to be enhanced to a level adequate for advanced Bachelor courses.

A 5. (ASIIN 1.3) The curriculum has to include mandatorily the basic subjects indicated in the report and required by the Subject-Specific Criteria.

For the Bachelor Computer Engineering

A 6. (ASIIN 1.1) The learning outcomes need to revised and adapted to the curriculum content. Further, they must outline the targeted job perspectives of the graduates.

A 7. (ASIIN 1.3) The curriculum needs to be reformed in the proposed way in order to ensure that the defined learning outcomes can be achieved and key topics of Computer Engineering are covered by core courses

Recommendations

E 1. (ASIIN 1.3) It is recommended to introduce subject-specific English language courses into the curriculum.

E 2. (ASIIN 2.1) It is recommended to institutionalize co-operations with industry in Northern Cyprus and beyond.

E 3. (ASIIN 1.3) It is recommended to strengthen aspects of scientific research methods in order to improve the level of the graduate projects.

E 4. (ASIIN 2.4) It is recommended to improve the communication of the offers of academic advisors for students.

E 5. (ASIIN 3) It is recommended to increase the variety of examinations types including oral exams.

E 6. (ASIIN 4.3) It is recommended to better institutionalize the use of Software, eLiterature and Laboratories.

E 7. (ASIIN 4.2) It is strongly recommended to ensure continuous offers for didactical development of teaching staff.

For the Bachelor Industrial Engineering

E 8. (ASIIN 2.1) It is strongly recommended to remove the restriction of internships manufacturing companies.

G Comment of the Technical Committees

Technical Committee 02- Electrical Engineering (09.09.2019)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure. With a minor editorial modification in recommendation 6 (availability of software and eLiterature) does the committee confirm the recommended resolution of the peers.

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

The Technical Committee deems that the intended learning outcomes of the Bachelor's degree programme Electrical and Electronics Engineering do comply with the engineering specific part of its Subject-Specific Criteria.

The TC 02 – Electrical Engineering recommends the award of the seals as follows:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditaiton
Ba Industrial Engineering	With requirements for one year	EUR-ACE	30.09.2025
Ba Computer Engineering	With requirements for one year	EUR-ACE	30.09.2025
Ba Electrical and Electronics Engineering	With requirements for one year	EUR-ACE	30.09.2025

Technical Committee 04 - Informatics (12.09.2019)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure and especially the quality of the programmes' theses and their international comparability. Eventually the Committee agrees with the assessment of the peers.

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

The Accreditation Commission deems that the intended learning outcomes of the degree programme Ba Computer Engineering do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 04.

The TC 04 – Informatics recommends the award of the seals as follows:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditaiton
Ba Industrial Engineering	With requirements for one year	EUR-ACE	30.09.2025
Ba Computer Engineering	With requirements for one year	EUR-ACE	30.09.2025
Ba Electrical and Electronics Engineering	With requirements for one year	EUR-ACE	30.09.2025

Technical Committee 06- Industrial Engineering (10.09.2019)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure and agree with the assessment of the peers.

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

The Technical Committee deems that the intended learning outcomes of the degree programme Ba Industrial Engineering do comply with the engineering specific part of Subject-Specific Criteria of the Technical Committee 06.

The TC 06 – Industrial Engineering recommends the award of the seals as follows:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditaiton
Ba Industrial Engineering	With requirements for one year	EUR-ACE	30.09.2025

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditaiton
Ba Computer Engineering	With requirements for one year	EUR-ACE	30.09.2025
Ba Electrical and Electronics Engineering	With requirements for one year	EUR-ACE	30.09.2025

Requirements

For the Bachelor Computer Engineering

A 6. (ASIIN 1.1) The learning outcomes need to be (FA 02) revised and adapted to the curriculum content. Further, they must outline the targeted job perspectives of the graduates.

Recommendations

E 6. (ASIIN 4.3) It is recommended to better ~~institutionalize~~ communicate the availability ~~the use~~ of software, eLiterature and related laboratories. (FA 02)

E 7. (ASIIN 4.2) It is strongly recommended to ensure continuous offers for the didactical development of the teaching staff. (FA 02)

H Decision of the Accreditation Commission (20.09.2019)

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

The Accreditation Committee discusses the procedure and generally agrees with the critical assessment of the peers. However, the Committee emphasises that the issues detected appear so grave that they doubt they can be remedied within one year. Furthermore, the Committee considers it important that some elementary aspects of the curriculum, equipment and learning outcomes need to be addressed before the programmes can be promoted on an international level using the ASIN- and EUR-ACE Label. Consequently, the Committee decided to suspend the procedure for a period of eighteen months in which the HEI is required to remedy the five most serious issues as a precondition for taking up the procedure again. In order to ascertain that the preconditions have been fulfilled adequately the Committee further decides that the fulfilment of the preconditions needs to be reviewed on-site by a group of expert peers after the end of the eighteen months period.

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

The Accreditation Commission deems that the intended learning outcomes of the degree programmes do not yet comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committees 02, 04 and 06

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

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditaiton
Ba Industrial Engineering	Suspension		30.09.2025
Ba Computer Engineering	Suspension		30.09.2025
Ba Electrical and Electronics Engineering	Suspension		30.09.2025

Preconditions

V 1. (ASIIN 6) A quality management system with a closed feedback cycle has to be established.

For the Bachelor Electrical and Electronics Engineering

V 2. (ASIIN 4.3) The equipment for teaching and research has to be enhanced to a level adequate for advanced Bachelor courses.

V 3. (ASIIN 1.3) The curriculum has to include mandatorily the basic subjects indicated in the report and required by the Subject-Specific Criteria.

For the Bachelor Computer Engineering

V 4. (ASIIN 1.1) The learning outcomes need to be revised and adapted to the curriculum content. Further, they must outline the targeted job perspectives of the graduates.

V 5. (ASIIN 1.3) The curriculum needs to be reformed in the proposed way in order to ensure that the defined learning outcomes can be achieved and key topics of Computer Engineering are covered by core courses.

Requirements

A 1. (ASIIN 2.2; 6) An assessment of the student workload needs to be established and the students' awareness of the ECTS system and workload calculation has to be increased.

A 2. (ASIIN 1.3) It must be ensured that electives announced on the website are actually offered at regular intervals.

Recommendations

E 1. (ASIIN 1.3) It is recommended to introduce subject-specific English language courses into the curriculum.

E 2. (ASIIN 2.1) It is recommended to institutionalize co-operations with industry in Northern Cyprus and beyond.

E 3. (ASIIN 1.3) It is recommended to strengthen aspects of scientific research methods in order to improve the level of the graduate projects.

E 4. (ASIIN 2.4) It is recommended to improve the communication of the offers of academic advisors for students.

E 5. (ASIIN 3) It is recommended to increase the variety of examinations types including oral exams.

E 6. (ASIIN 4.3) It is recommended to better communicate the availability of software, eLiterature and related laboratories. (FA 02)

E 7. (ASIIN 4.2) It is strongly recommended to ensure continuous offers for the didactical development of the teaching staff. (FA 02)

For the Bachelor Industrial Engineering

E 8. (ASIIN 2.1) It is strongly recommended to remove the restriction of internships manufacturing companies.

I Resumption of the procedure for the Bachelor Programmes

Decision of the Accreditation Commission (23.06.2023)

Since Girne American University has not submitted the documents for the resumption of the procedure by 17 January 2021, the Accreditation Commission decides to refuse the accreditation of all the above-mentioned programmes.

The Accreditation Commission decides to award the following seals:

Degree Programme	**ASIIN-seal**	**Subject-specific label**	**Maximum duration of accreditaiton**
Ba Industrial Engineering	Refusal		/
Ba Computer Engineering	Refusal		/
Ba Electrical and Electronics Engineering	Refusal		/

Appendix: Programme Learning Outcomes and Curricula

According to self-assessment report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Computer Engineering:

"After completion of the programme, the students will possess the following:

1. Ability to understand and apply knowledge of mathematics, science, and engineering
2. Ability to design and conduct experiments as well as to analyze and interpret data
3. Ability to work in multidisciplinary teams while exhibiting professional responsibility and ethical conduct
4. Ability to apply systems thinking in problem solving and system design
5. Knowledge of contemporary issues while continuing to engage in lifelong learning
6. Ability to use the techniques, skills and modern engineering tools necessary for engineering practice
7. Ability to express their ideas and findings, in written and oral form
8. Ability to design and integrate systems, components or processes to meet desired needs within realistic constraints
9. Ability to approach engineering problems and effects of their possible solutions within a well-structured, ethically responsible and professional manner

Subject Specific Programme Outcomes for Computer Engineering Programme

1. Ability to apply design and development principles in the construction of software systems
2. Ability to find appropriate technical information to solve computer engineering problems"

The following **curriculum** is presented:

GİRNE AMERICAN UNIVERSITY
Faculty of Engineering

BSc Degree in Computer Engineering
4 – Year Curriculum

FRESHMAN YEAR

First Year Fall Semester (16/16 Credits, 30/30 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT111	Calculus I	(3,2)4	7	MT	-
ENG103	Computer Aided Design	(2,2)3	5	EF	-
PS111	General Physics I	(2,2)3	6	NS	-
CH101	General Chemistry	(3,0)3	6	NS	-
ENG101	Introduction to Computers	(3,0)3	5	EF	-
TURK001	Turkish I	(1,0)0	1	UC	-

First Year Spring Semester (16/32 Credits, 30/60 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT112	Calculus II	(3,2)4	7	MT	MT111
PS112	General Physics II	(2,2)3	6	NS	PS111
ENG102	Computer Programming I	(2,2)3	6	EF	ENG101
MT104	Linear Algebra	(3,0)3	5	MT	-
ENG106	Fundamentals of Industrial Engineering	(3,0)3	5	EF	-
TURK002	Turkish II	(1,0)0	1	UC	-

SOPHOMORE YEAR

Second Year Fall Semester (18/50 Credits, 30/90 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT211	Calculus III	(3,2)4	7	MT	MT112
MT207	Probability Theory	(3,0)3	5	MT	-
ENG201	Fund. of Electrical Engineering	(2,2)3	6	EF	-
ENG203	Computer Programming II	(3,2)4	6	EF	ENG102
ENG205	Logic Circuit Design	(3,2)4	6	DC	-

Second Year Spring Semester (17/67 Credits, 30/120 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT212	Engineering Mathematics	(3,0)3	6	MT	MT211
MT206	Differential Equations	(4,0)4	7	MT	MT112
ENG202	Physical Electronics	(2,2)3	6	EF	-
ENG204	Intro. to Modelling and Optimisation	(3,0)3	5	EF	-
ENG206	Digital Systems	(3,2)4	6	DC	ENG205

JUNIOR YEAR

Third Year Fall Semester (18/85 Credits, 30/150 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
CEN301	Microprocessors	(3,2)4	7	DC	ENG206
CEN303	Data Structures & Algorithms	(3,2)4	6	DC	ENG102
CEN305	Object Oriented Programming	(2,2)3	6	DC	ENG203
CEN307	Operating Systems	(3,2)4	7	DC	-
ELXXX	Free Elective	(3,0)3	4	UE	-

Third Year Spring Semester (17/102 Credits, 30/180 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
CEN302	Structured Prog. Languages	(3,2)4	6	DC	ENG102
CEN304	File Organization & Access Methods	(2,2)3	6	DC	-
CEN306	Database Systems	(3,2)4	7	DC	-
ENG304	Engineering Economy	(3,0)3	5	EF	-
MT308	Numerical Analysis	(3,0)3	6	EF	MT112

SENIOR YEAR

Fourth Year Fall Semester (15/117 Credits, 31/211 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
CEN401	Graduation Project I	(2,2)3	6	GP	-
CEN403	Software Design	(2,2)3	6	DC	-
TELXXX	Technical Elective	(3,0)3	6	DE	-
TELXXX	Technical Elective	(3,0)3	6	DE	-
ELXXX	Free Elective	(3,0)3	4	UE	-
NH001	National History I	(1,0)0	1	UC	-
EE400	Summer Training	-	2	SI	-

Fourth Year Spring Semester (15/132 Credits, 29/240 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
CEN402	Graduation Project II	(2,2)3	6	GP	CEN401
TELXXX	Technical Elective	(3,0)3	6	DE	-
TELXXX	Technical Elective	(3,0)3	6	DE	-
TELXXX	Technical Elective	(3,0)3	6	DE	-
ELXXX	Free Elective	(3,0)3	4	UE	-
NH002	National History II	(1,0)0	1	UC	-

MT : Maths, NS : Natural Sciences, EF : Engineering Foundation, DC : Departmental Core, DE : Department Electives, UE : University Electives, GP : Graduation Projects, SI : Summer Internship, UC : University Compulsory

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

"After completion of the programme, the students will possess the following:

1. Ability to understand and apply knowledge of mathematics, science, and engineering

2. Ability to design and conduct experiments as well as to analyze and interpret data
3. Ability to work in multidisciplinary teams while exhibiting professional responsibility and ethical conduct
4. Ability to apply systems thinking in problem solving and system design
5. Knowledge of contemporary issues while continuing to engage in lifelong learning
6. Ability to use the techniques, skills and modern engineering tools necessary for engineering practice
7. Ability to express their ideas and findings, in written and oral form
8. Ability to design and integrate systems, components or processes to meet desired needs within realistic constraints
9. Ability to approach engineering problems and effects of their possible solutions within a well-structured, ethically responsible and professional manner.

Subject Specific Programme Outcomes for Electrical and Electronics Engineering Programme

1. Strong foundation on the fundamentals of Electrical and Electronics Engineering such as Circuit Theory, Signals, Systems, Control and Communications, which are necessary for successful practice in the field
2. Awareness on the contemporary requirements, methods and applications of the Electrical and Electronics Engineering."

The following **curriculum** is presented:

GİRNE AMERICAN UNIVERSITY
Faculty of Engineering

BSc Degree in Electrical and Electronic Engineering
4 – Year Curriculum

FRESHMAN YEAR

First Year Fall Semester (16/16 Credits, 30/30 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT111	Calculus I	(3,2)4	7	MT	-
PS111	General Physics I	(2,2)3	6	NS	-
CH101	General Chemistry	(3,0)3	6	NS	-
ENG101	Introduction to Computers	(3,0)3	5	EF	-
ENG103	Computer Aided Design	(3,0)3	5	EF	-
TURK001	Turkish I	(1,0)0	1	UC	-

First Year Spring Semester (16/32 Credits, 30/60 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT112	Calculus II	(3,2)4	7	MT	MT111
MT104	Linear Algebra	(2,2)3	5	MT	-
PS112	General Physics II	(2,2)3	6	NS	PS111
ENG102	Computer Programming I	(2,2)3	6	EF	ENG101
ENG106	Fundamentals of Industrial Engineering	(3,0)3	5	EF	-
TURK002	Turkish II	(1,0)0	1	UC	-

SOPHOMORE YEAR

Second Year Fall Semester (18/50 Credits, 30/90 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT211	Calculus III	(4,0)4	7	MT	MT112
MT207	Probability Theory	(3,0)3	5	MT	MT112
ENG201	Fund. of Electrical Engineering	(2,2)3	6	EF	-
ENG203	Computer Programming II	(3,2)4	6	EF	ENG102
ENG205	Logic Circuit Design	(3,2)4	6	DC	-

Second Year Spring Semester (17/67 Credits, 30/120 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT212	Engineering Mathematics	(3,0)3	6	MT	MT211
MT206	Differential Equations	(4,0)4	7	MT	MT112
ENG202	Physical Electronics	(2,2)3	6	EF	ENG201
ENG204	Intro. to Modelling and Optimization	(3,0)3	5	EF	-
ENG206	Digital Systems	(3,2)4	6	DC	ENG205

JUNIOR YEAR

Third Year Fall Semester (18/85 Credits, 30/150 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
EEN301	Electronic Circuits I	(3,2)4	7	DC	ENG202
EEN303	Circuit Theory	(3,2)4	7	DC	ENG201
EEN305	Electrical Measurements and Inst.	(2,2)3	5	DC	ENG201
EEN307	Signals and Systems	(2,2)3	5	DC	MT112
EEN347	Electromagnetic Theory I	(4,0)4	6	DC	PS112

Third Year Spring Semester (18/103 Credits, 30/180 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
EEN302	Electronic Circuits II	(3,2)4	7	DC	EEN301
EEN304	Feedback Control Systems	(4,0)4	6	DC	EEN307
EEN348	Electromagnetic Theory II	(4,0)4	6	DC	EEN347
ENG304	Engineering Economics	(3,0)3	5	EF	-
MT308	Numerical Analysis	(3,0)3	6	EF	MT112

SENIOR YEAR

Fourth Year Fall Semester (15/118 Credits, 31/211 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
EEN401	Graduation Project I	(2,2)3	6	GP	-
EEN403	Communication systems	(2,2)3	6	DC	EEN307
ELXXX	Free Elective	(3,0)3	4	UE	-
TELXXX	Technical Elective	(3,0)3	6	DE	-
TELXXX	Technical Elective	(3,0)3	6	DE	-
NH001	National History I	(1,0)0	1	UC	-
EE400	Summer Training	-	2	SI	-

Fourth Year Spring Semester (15/133 Credits, 29/240 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
EEN402	Graduation Project II	(2,2)3	6	GP	EEN401
ELXXX	Free Elective	(3,0)3	4	UE	-
TELXXX	Technical Elective	(3,0)3	6	DE	-
TELXXX	Technical Elective	(3,0)3	6	DE	-
TELXXX	Technical Elective	(3,0)3	6	DE	-
NH002	National History II	(1,0)0	1	UC	-

MT : Maths, NS : Natural Sciences, EF : Engineering Foundation, DC : Departmental Core, DE : Department Electives, UE : University Electives, GP : Graduation Projects, SI : Summer Internship, UC : University Compulsory

According to the self-assessment report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Industrial Engineering:

"After completion of the programme, the students will possess the following:

1. Ability to understand and apply knowledge of mathematics, science, and engineering

2. Ability to design and conduct experiments as well as to analyze and interpret data
3. Ability to work in multidisciplinary teams while exhibiting professional responsibility and ethical conduct
4. Ability to apply systems thinking in problem solving and system design
5. Knowledge of contemporary issues while continuing to engage in lifelong learning
6. Ability to use the techniques, skills and modern engineering tools necessary for engineering practice
7. Ability to express their ideas and findings, in written and oral form
8. Ability to design and integrate systems, components or processes to meet desired needs within realistic constraints.
9. Ability to approach engineering problems and effects of their possible solutions within a well-structured, ethically responsible and professional manner.

Subject Specific Programme Outcomes for Industrial Engineering Programme

3. Ability to apply production planning, quality planning and control techniques for system improvement in light of the contemporary Industrial Engineering techniques
4. Ability to improve system performance using fundamentals of work study, ergonomics, and production systems techniques."

The following **curriculum** is presented:

GİRNE AMERICAN UNIVERSITY
Faculty of Engineering

BSc Degree in Industrial Engineering

4 – Year Curriculum

FRESHMAN YEAR

First Year Fall Semester (16/16 Credits, 30/30 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT111	Calculus I	(3,2)4	7	MT	-
ENG103	Computer Aided Design	(2,2)3	5	EF	-
PS111	General Physics I	(2,2)3	6	NS	-
CH101	General Chemistry	(3,0)3	6	NS	-
ENG101	Introduction to Computers	(3,0)3	5	EF	-
TURK001	Turkish I	(1,0)0	1	UC	-

First Year Spring Semester (16/32 Credits, 30/60 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT112	Calculus II	(3,2)4	7	MT	MT111
PS112	General Physics II	(2,2)3	6	NS	PS111
ENG102	Computer Programming I	(2,2)3	6	EF	ENG101
MT104	Linear Algebra	(3,0)3	5	MT	-
ENG106	Fundamentals of Industrial Engineering	(3,0)3	5	EF	-
TURK002	Turkish II	(1,0)0	1	UC	-

SOPHOMORE YEAR

Second Year Fall Semester (17/49 Credits, 30/90 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT211	Calculus III	(3,2)4	7	MT	MT112
MT207	Probability Theory	(3,0)3	5	MT	-
ENG201	Fund. of Electrical Engineering	(2,2)3	6	EF	-
ENG203	Computer Programming II	(3,2)4	6	EF	ENG102
ECON201	Introduction to Economics I	(3,0)3	6	BE	-

Second Year Spring Semester (16/65 Credits, 30/120 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
MT212	Engineering Mathematics	(3,0)3	6	MT	MT211
MT206	Differential Equations	(4,0)4	7	MT	MT112
ENG202	Physical Electronics	(2,2)3	6	EF	-
ECON202	Introduction to Economics II	(3,0)3	6	BE	-
ENG204	Intro.to Modelling&Optimisation	(3,0)3	5	EF	-

JUNIOR YEAR

Third Year Fall Semester (15/80 Credits, 30/150 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
IE303	Fundamentals of Work Study	(3,0)3	7	DC	-
IE307	Operations Research I	(3,0)3	7	DC	-
IE311	Engineering Statistics	(3,0)3	7	DC	MT207
ACCT101	Introduction to Accounting	(3,0)3	5	BE	-
ELXXX	Free Elective	(3,0)3	4	UE	-

Third Year Spring Semester (15/95 Credits, 30/180 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
ENG304	Engineering Economy	(3,0)3	5	EF	-
MT308	Numerical Analysis	(3,0)3	6	EF	-
IE308	Operations Research II	(3,0)3	7	DC	IE307
IE312	Production Systems	(3,0)3	6	DC	-
IE314	Manufacturing Technology	(3,0)3	6	DC	-

SENIOR YEAR

Fourth Year Fall Semester (15/110 Credits, 32/212 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
IE401	Industrial Engineering Project	(2,2)3	6	DC	-
IE405	Production Planning & Control	(3,0)3	6	DC	-
IE407	Quality Planning & Control	(3,0)3	7	DC	IE311
TELXXX	Technical Elective	(3,0)3	5	DE	-
TELXXX	Technical Elective	(3,0)3	5	DE	-
NH001	National History I	(1,0)0	1	UC	-
EE400	Summer Training	-	2	SI	-

Fourth Year Spring Semester (15/125 Credits, 28/240 ECTS)					
Course Code	Course Name	Credit	ECTS	Category	Prerequisite(s)
IE402	Graduation Project	(2,2)3	6	DC	-
IE412	Production Information System Mgmt.	(3,0)3	6	DC	-
TELXXX	Technical Elective	(3,0)3	5	DE	-
TELXXX	Technical Elective	(3,0)3	5	DE	-
TELXXX	Technical Elective	(3,0)3	5	DE	-
NH002	National History II	(1,0)0	1	UC	-

MT : Maths, NS : Natural Sciences, EF : Engineering Foundation, DC : Departmental Core, DE : Department Electives,
UE : University Electives, GP : Graduation Projects, SI : Summer Internship, UC : University Compulsory,
BE : Economics & Business