



ASIIN Seal & Euro-Inf[®] Label

Accreditation Report

Bachelor's and Master's Degree Programmes
Information Technology

Provided by
Eastern Mediterranean University (EMU) – North Cyprus

Version: 24 September 2024

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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
Ba Information Technology	Ba Information Technology	Euro-Inf® Label	2016 –2023	04
Bilişim Sistemleri ve Teknolojileri	Ba Information Technology (Turkish)	Euro-Inf® Label	2021 – 2023	04
Ma Information Technology with thesis	Ma Information Technology with thesis	Euro-Inf® Label		04
Ma Information Technology without thesis	Ma Information Technology without thesis	Euro-Inf® Label	2017 – 2023	04
<p>Date of the contract: 05.11.2021</p> <p>Submission of the final version of the self-assessment report: 24.01.2023</p> <p>Date of the onsite visit: 31.05./01.06.2023</p> <p>at: Famagusta, North Cyprus</p>				
<p>Expert panel:</p> <p>Apl. Prof. Dr.-Ing. Reinhard Moeller, University of Wuppertal;</p> <p>Prof. Dr.-Ing. Helena Szczerbicka, Leibniz University Hannover;</p> <p>Paul-Emmanuel Ossom, student at Girne American University</p> <p><u>Note:</u> Industry representative revoked his participation on short notice due to unavailability at his workplace.</p>				
<p>Representative of the ASIIN headquarter: Siegfried Hermes</p>				

¹ ASIIN Seal for degree programmes; Euro-Inf®: Label European Label for Informatics

² TC: Technical Committee for the following subject areas: TC 04 - Informatics/Computer Science

Responsible decision-making committee: Accreditation Commission for Degree Programmes

Criteria used:

European Standards and Guidelines as of May 15, 2015

ASIIN General Criteria, as of December 7, 2021

Subject-Specific Criteria of Technical Committee 04 – Informatics/Computer Science as of March 29, 2018

B Characteristics of the Degree Programmes

Name	Final degree (original/English translation)	Areas of Specialisation	Corresponding level of the EQF ³	Mode of Study	Double/Joint Degree	Duration	Credit points/unit	First time of offer
Information Technology	Bachelor of Science (B.S.)	Informatics	6	Full time	EMU-Management Information Systems	8 semesters	240 ECTS/138 EMU credit points	1994
Information Technology (Turkish)	Lisans Derecesi/ Bachelor of Science (B.S.)	Informatics	6	Full time		8 semesters	240 ECTS/138 EMU credit points	2020
Information Technology Master's Program (with thesis)	Master of Technology (M.Tech.)	Informatics	7	Full time		4 semesters	120 ECTS/21 EMU credit points	2021
Information Technology Master's Program (without thesis)	Master of Technology (M.Tech.)	Informatics	7	Full time		3 semesters	90 ECTS/30 EMU credit points	2011

Name	Intake rhythm	Intake Capacity per cohort	Average starting cohort size	Average number of graduates per cohort	Average time required to complete studies
Information Technology	Fall and Spring semester	100 students per year	68 students per semester	24 students per semester	8 semesters
Information Technology (Turkish)	Fall and Spring semester	50 students per year	27 students per year	Not available yet	Not available yet
Information Technology Master's Program (with thesis)	Fall and Spring semester	15 per year	8 students per semester	3 students per semester	3.5 semesters
Information Technology Master's Program (without thesis)	Fall and Spring semester	10 per year	7 students per semester	3 students per semester	3.1 semesters

For the Bachelor's degree programme Information Technology the institution has presented the following profile on the internet³ (and similar for the Turkish programme⁴):

³ Cf. <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program/925> (Access: 04.07.2023)

⁴ Cf. <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program-turkish/1648> (Access: 04.07.2023)

„The aim of the IT program is to equip students with a strong foundation in IT related fields. The programme focuses on satisfying the needs of users within an organizational and societal context through the selection, creation, application, integration and administration of computing technologies. In keeping with the vision of Eastern Mediterranean University and the School of Computing and Technology, the Information Technology program aims to be recognized as one of the leading IT education, development, and consultation centers that make use of all current IT technologies, innovative approaches for teaching, learning, and IT solution development.”

“The courses in the first year of the curriculum allow students to acquire infrastructure in English, mathematics, business administration and programming. In the second and third years, courses that form the basis of information technologies such as computer networks, operating systems, internet programming, database, system analysis and design, and software engineering are given. In the fourth and last year, students are given many elective courses to help them develop and specialize in the areas of their interest. In addition, graduation projects are developed with selected subjects from the business life to enable students adapt the market more easily.”

For the Master’s degree programme Information Technology (with Thesis⁵ or without Thesis⁶) the institution has presented the following profile on the internet:

„The overall goal of the Master of Technology in Information Technology (M.Tech. in IT) degree program is to provide master’s level instruction in cutting edge computing technology. The program strives to meet the growing global demand for IT professionals who can draw upon a unique combination of technical and theoretical skills to design, implement, maintain and administer IT projects. The program offers project based courses in IT and is designed to satisfy not only the post baccalaureate development of working professionals, but also new graduates who want to set up careers in IT sector. M.Tech. in IT program is designed for students who already hold a bachelor’s degree from an accredited institution in Information Technology, Computer Science, Management of Information Systems, or any related area. Graduates will have the opportunity to study systems and database design, client/server applications, desktop applications, web applications, web services, networks along with analysis and ethical practices in the IT field. M.Tech. in IT program consists of seven elective courses, seminar and a thesis in its curriculum.” Alternatively, “M.Tech.

⁵ Cf. <https://www.emu.edu.tr/en/programs/information-technology-masters-program-with-thesis/1669> (Access: 04.07.2023)

⁶ Cf. <https://www.emu.edu.tr/en/programs/information-technology-masters-program-without-thesis/1070> (Access: 04.07.2023)

B Characteristics of the Degree Programmes

in IT program is a non-thesis option which consists of four core courses plus six elective courses and a term project in its curriculum.”

“The master’s degree program focuses on satisfying the needs of users within an organizational and societal context through the selection, creation, application, integration and administration of computing technologies.”

C Peer Report for the ASIIN Seal⁷

The experts positively note that study-related information relevant to students is almost entirely provided on the internet by EMU.⁸ In the report, they will rely on the information given in the Self-Assessment Report (SAR) with its annexes, but at the same time assume that this information is consistent with what is presented on the internet too. As far as websites of EMU are cited below in the respective evidence section, consistency is essentially anticipated, not followed up strictly.

1. The Degree Programme: Concept, Content & Implementation

Criterion 1.1 Objectives and Learning Outcomes of a Degree Programme (Intended Qualifications Profile)

Evidence:

- Respective chapter of the Self-Assessment Report (SAR)
- See information on the internet: <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program/925> (for the Bachelor's programme), <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program-turkish/1648> (for the Turkish Bachelor's programme), <https://www.emu.edu.tr/en/programs/information-technology-masters-program-with-thesis/1669> (for the Master's programme with Thesis), <https://www.emu.edu.tr/en/programs/information-technology-masters-program-without-thesis/1070> (for the Master's programme without Thesis) (Access: 04.07.2023)
- Mission & Vision chapter in the respective Student Handbooks: <https://www.emu.edu.tr/media/assets/files/pages/it-student-handbook-2023.pdf> (Access: 04.07.2023); <https://www.emu.edu.tr/media/assets/files/pages/mtechstudenthandbook-2023-24.pdf> (for Master's programme with and without Thesis) (Access: 04.07.2023)

⁷ 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.

⁸ Cf. <https://www.emu.edu.tr/en/programs/695> (Access: 04.07.2023)

- Sample Diploma Supplement of IT Bachelor's degree and Master's degree with or without Thesis (Appendices K1 to K3 of the SAR)
- Audit discussions

Preliminary assessment and analysis of the peers:

The School of Computing and Technology (SCT) has developed educational objectives and learning outcomes for the Bachelor's and Master's programmes under review. These objectives and programme-specific learning outcomes have been made publicly available, ensuring accessibility to all stakeholders. They encompass both subject-specific competences and interdisciplinary competences, including basic knowledge of business administration, legal understanding, professional ethics, and social skills such as communication, teamwork, and project management.

The expert team recognized SCT's significant efforts in aligning the defined educational objectives and learning outcomes with the curriculum, highlighting how these programme learning outcomes are implemented. However, the team also observed that the programme coordinators seem to have very similar learning outcomes and qualification profiles in mind, both in terms of content and level. The subject-related learning outcomes for graduates of the respective programmes lack differentiation, and the formulations do not sufficiently address the distinction between Bachelor's and Master's level competences.

For example, intended learning outcomes such as the ability to design and administer IT-based solutions within an organizational environment, use analytical and critical thinking skills in the field of IT, or stay updated with the latest IT developments are – although formulated for the Bachelor's programmes – not exclusive indicators of a Bachelor's level qualification. Similarly, learning outcomes such as the ability to recommend appropriate information technology solutions based on organizational needs and an evaluation of alternatives or to demonstrate the ability to participate effectively in the planning and execution of team-based projects do not adequately distinguish a Master's level qualification from a Bachelor's.

While the experts did not find this indicative of a missing qualification gap between the Bachelor's and Master's programmes based on the actual content, they emphasized the need for more accurate and appropriate formulation of the intended learning outcomes to reflect the competency levels expected of graduates at each level. Therefore, it is strongly advisable that SCT revises and adjusts the current phrasing of learning outcomes for the Bachelor's and Master's programmes accordingly. To achieve this, it is recommended to carefully consider the respective Subject-Specific Criteria (SSC) to enhance the visibility of the intended learning outcomes of the reviewed programmes and their alignment with the exemplary SSC.

On a positive note, the experts commended SCT for involving not only internal stakeholders such as students and instructors but also external stakeholders, particularly industry companies, in the definition of programme learning outcomes and potential curriculum contents.

Criterion 1.2 Name of the Degree Programme

Evidence:

- Relevant chapter of the SAR
- Study-related documents annexed to the SAR and available on the internet: <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program/925> (for the Bachelor's programme), <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program-turkish/1648> (for the Turkish Bachelor's programme), <https://www.emu.edu.tr/en/programs/information-technology-masters-program-with-thesis/1669> (for the Master's programme with Thesis), <https://www.emu.edu.tr/en/programs/information-technology-masters-program-without-thesis/1070> (for the Master's programme without Thesis) (Access: 04.07.2023)

Preliminary assessment and analysis of the peers:

The experts considered the name of the reviewed programmes in both the Bachelor's and the Master's cases adequate and consonant with the intended programme learning outcomes as well as with the curriculum of the respective programmes.

As the English Bachelor's programme has been running since 1994 and the Master's programme (without Thesis) since 2011, both IT programmes have been acknowledged under this name in at least one previous accreditation. Consequently, the programmes could be seen as well introduced as IT programmes in North Cyprus and other target regions.

Criterion 1.3 Curriculum

Evidence:

- Respective chapter of the Self-Assessment Report and relevant statistical data of chapter on Quality Assurance (SAR)
- Study plans presented in Appendices C (for Bachelor's programme only); all study plans available in the respective Module Handbooks and on the internet: <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program/925?tab=curriculum> (for the Bachelor's programme); <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program-turkish/1648?tab=curriculum> (for the Turkish Bachelor's programme);

<https://www.emu.edu.tr/en/programs/information-technology-masters-program-with-thesis/1669?tab=curriculum> (for the Master's programme with Thesis);
<https://www.emu.edu.tr/en/programs/information-systems-masters-program-without-thesis/939?tab=curriculum> (for the Master's programme without Thesis)
(Access: 04.07.2023)

- Module Handbooks annexed to the SAR and available on the internet: <https://www.emu.edu.tr/media/assets/files/pages/it-modules-handbook-2023.pdf> (for the Bachelor's programme), <https://www.emu.edu.tr/media/assets/files/pages/bst-modules-handbook-2023.pdf> (for the Turkish Bachelor's programme), <https://www.emu.edu.tr/media/assets/files/pages/mtechmoduleshandbook.pdf> (for the Master's programme with or without Thesis) (Access: 04.07.2023)
- Relevant chapter in the Student Handbooks: <https://www.emu.edu.tr/media/assets/files/pages/it-student-handbook-2023.pdf> (Access: 04.07.2023); <https://www.emu.edu.tr/media/assets/files/pages/mtechstudenthandbook-2023-24.pdf> (for Master's programme with and without Thesis) (Access: 04.07.2023)
- List of area elective courses offered by IT department (Appendix D to the SAR)
- Internship Log Book (Appendix B to the SAR)
- Sample list of companies where IT graduates are employed (Appendix A to the SAR)
- Audit discussions

Preliminary assessment and analysis of the peers:

Curricula and learning outcomes

As the intended learning outcomes on programme level have not been appropriately formulated in the opinion of the experts (see above sec. 1.1), it was difficult to use them as a departure point for the assessment of the curricula, in particular concerning the question whether these are on an adequate qualification level. However, as mentioned earlier, the expert team considered this deficiency to be a matter of formulation rather than indicating any structural flaws within the curriculum. Hence, the curricula of both the Bachelor's and the Master's programmes were generally deemed of adequate substance and logical structure.

The curriculum of the Bachelor's programmes, which is identical in the international and Turkish versions, appears to be modelled along the line of international standards such as the Association for Computing Machinery (ACM) covering IT fundamentals, programming, networking, human computer interaction, databases, web systems and information security. According to the available study plans, modules/courses are classified as University

Core (UC), Area Core (AC), Area Elective (AE) and University Elective (UE) (in arts & humanities, social and behavioural sciences, physical and natural sciences). Upon the approval of the department coordinator, AE courses can also be taken from other departments such as Business Administration and Computer Engineering.

In addition, the experts highly valued that project-based learning is employed wherever possible as an important teaching/learning method in the curriculum, actively engaging students in the teaching/learning process. Summer training (internship) and graduation project courses complete the curriculum and, in the eyes of the experts, deepen the collaboration with the industry and, likewise, the students' exposure to real life projects.

The most notable distinction lies in the differentiation between Master's programmes *with* and *without* a thesis. While the Master's programme *with* thesis gives students a maximum of flexibility in their studies, allowing to select seven area electives besides only two (mandatory) core courses (one Seminar and the Master Thesis), the one *without* thesis has a broader core area of altogether five core courses (including a so-called Term Project). This is completed through an elective area of six courses, which students may use for sharpening their individual qualification profile in the field.

The expert team was convinced that the Master's courses, which are presented in the Module Handbook according to their classification (AC and AE courses), could be studied independently. From their perspective, the resulting combination of courses principally makes up for reasonable Master qualification profiles, irrespective of the chosen Master's programme. However, as the programme *with* thesis encompasses a Master Thesis of an unusual size (60 ECTS) stretching over two semesters, the experts found that the curriculum does not reflect the research competences student would need to conduct meaningful Master Thesis projects. Except of a "Seminar" of 4 ECTS, no compulsory research courses are included in the curriculum. Hence, the expert team strongly advised EMU to ensure that students have the necessary methodological skills and research competencies to successfully conduct Master's thesis projects at an appropriate level and in line with the intended research-oriented learning outcomes.

From the available statistics, the experts could see that the Master's programme *with* thesis although only recently been introduced is already expanding at the expense of the one *without* thesis. Programme coordinators seemingly expected this trend to be hardened in the coming years, which might lead to a process of phasing out this Master's programme altogether. The experts would be welcoming this, the more so if qualified job placements of Master's graduates (*without* thesis) could be filled with Bachelor's graduates as well – as audit discussions, in particular with the industry, indicated. Notwithstanding this, the expert team considered it necessary that the Term Projects must be raised in size and quality

level, if the Master's programme *without* thesis is shall be maintained and comply with Master's level standards (see also below sec. 2).

The programme coordinators made a convincing case that all curricula are internally reviewed on a regular basis in order to reflect the latest innovations and rapid developments in technology and science. Although the core of the curriculum would not be changed frequently, coordinators pointed out that the contents of all existing courses are updated regularly by considering state-of-the-art approaches in technology. Additionally, new AE courses would be offered as needed to enrich the curriculum with the latest developments in the IT field. The expert team recognized this practice as a major means of maintaining and further developing the programmes according to the needs of the discipline and the labour market. It was well noticed too that the process of revising and updating the programmes is open for and feeds in the feedback of different internal and external stakeholders. Particularly, students and industry representatives concurrently confirmed EMU's respect for their comments and ideas.

Individual study profiles / elective area

Although there is a wide range of potential elective courses for both programmes, the discussion with students highlighted that the number of available electives per semester may be limited at times. The experts were aware of the fact that the question of availability of elective courses directly relates to the personal resources of the School/Department. They nevertheless recommended raising the number of available courses in accordance with the staff capacity and personal resources of the School/Department.

Furthermore, Bachelor students lamented that electives were not necessarily identical in the international and the Turkish Bachelor's programmes, with some being offered in English, others in Turkish only. As the Turkish version of the Bachelor's programme was introduced strategically to attract Turkish applicants, the experts recommended providing equal opportunities for both study cohorts to pursue individual interests and develop competencies in specific areas. Therefore, area electives should be offered in both Turkish and English, wherever possible.

Engineering practice / Internship / Research experience

The expert team considered the practical elements a significant strength particularly of the Bachelor's programmes, but also of the Master's programme *without* thesis. Apart from the laboratory units, the projects and project-based approach, the (compulsory) summer training and graduation project in the Bachelor's programmes or, likewise, the Term Project in the Master's *without* thesis, reflect the strong practice-orientation of the programmes. Particularly in the Graduation and Term Projects as well as in the Summer Training, EMU

capitalises on its strong ties with industry companies. The experts could convince themselves that company and academic supervisors guide students during their internships (summer trainings) in the Bachelor's programmes. Guidelines for their proper conduct and assessment of the internships were in place and adhered to. In addition, the experts positively noted the supportive role of the School/Department in identifying and ensuring adequate placements of students. However, it was noted that the internship advisor is primarily accessible to students online rather than in person, which raises concerns, as it is important for the advisor to be available for face-to-face meetings and guidance, particularly during the summer training. Students tended to see this critical and the experts shared their view suggesting to EMU to improve on this situation.

Mobility

Statistical representation of the nationality of the registered students in the Bachelor's and Master's programmes vividly attested to incoming mobility, which is supported by a corresponding recognition regime. Additionally, the share and structure of electives in the programmes were considered important factors to encourage the outgoing mobility of students as well.

In summary, the expert team considered the curricula of the programmes to adequately reflect the intended Bachelor's and Master's level qualifications, with some reservations detailed above.

Criterion 1.4 Admission Requirements

Evidence:

- Relevant chapter of the SAR
- Information about admission available on the internet: <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program/925> (for the Bachelor's programme), <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program-turkish/1648> (for the Turkish Bachelor's programme), <https://www.emu.edu.tr/en/programs/information-technology-masters-program-with-thesis/1669> (for the Master's programme with Thesis), <https://www.emu.edu.tr/en/programs/information-technology-masters-program-without-thesis/1070> (for the Master's programme without Thesis) (Access: 04.07.2023)
- "REGULATION FOR ENTRANCE EXAMS AND STUDENT ADMISSION" available on the internet: http://mevzuat.emu.edu.tr/5-1-1-Rules-Entrance_exam.htm (Access: 04.07.2023)

- Relevant chapter in the Student Handbooks: <https://www.emu.edu.tr/media/assets/files/pages/it-student-handbook-2023.pdf> (Access: 04.07.2023); <https://www.emu.edu.tr/media/assets/files/pages/mtechstudenthandbook-2023-24.pdf> (for Master's programme with and without Thesis) (Access: 04.07.2023)
- Rules of recognition of learning achievements at other HEIs: "Eastern Mediterranean University Regulations for Taking Courses from Another Institution, available on the internet: http://mevzuat.emu.edu.tr/5-1-6-Rules-Taking_courses_outside_the_university.htm (Access: 04.07.2023)
- Audit discussions

Preliminary assessment and analysis of the peers:

Regarding the *Bachelor's programmes*, it becomes clear from the SAR that the entry requirements differ for applicants from different countries. Thus, for the undergraduate programmes of the universities in Turkey and North Cyprus, the students are selected and placed by a centrally administered examination system. The experts learnt that the basis of this system is the Higher Education Institutions Entrance Examination (YKS), and the organization responsible for its administration is the Student Selection and Placement Center (ÖSYM) which is affiliated with Higher Education Council of Turkey (YÖK). Any Turkish citizen who has a high school diploma or its equivalent or who is in the final year of such a school is qualified to apply for YKS. EMU also organizes an "EMU Entrance and Scholarship Examination" for all North Cyprus citizens and other citizens who have completed their last 4 years in high schools in North Cyprus. Non-citizens of North Cyprus or Turkey are required to submit a certified copy of a Higher Secondary School Certificate or Intermediate Certificate or equivalent, demonstrating that s/he has satisfactorily graduated from secondary school, and must arrange for other relevant certified documents, such as transcripts or detailed mark sheets, to be admitted to EMU. The candidates may apply up to three programmes according to their preferences. The applications of these candidates are evaluated by the registrar's office accordingly. According to the information of the SAR, the English Bachelor's programme currently encompasses approximately 15% of students from North Cyprus and Turkey, and 85% international students. By contrast, the Turkish Bachelor's programme consists of 2% international students and 98% from Turkey and North Cyprus. The experts positively note that orientation programmes for all students in their first study year are held at the beginning of the academic year and aim at introducing them with the academic, social environment and local culture.

The experts notice that all applicants are required to prove that their English/Turkish language proficiency is adequate to follow the curriculum of their respective programme suc-

cessfully. This is also true for international students applying for the Turkish Bachelor's programme who have to certify an adequate level of Turkish language skills in an internationally recognized exam. Preparatory language courses are offered in case English/Turkish language requirements do not fulfil the requirements at the time of the application for enrolment.

Entry requirements for the Master's programme require a Bachelor's degree from an accredited institution in Information Technology, Computer Science, Computer Engineering, Management of Information Systems, or any related area. Candidates from a different academic background are required to complete deficiency/bridging courses to be eligible for admission to the program. The number of deficiency/bridging courses depends on the candidate's undergraduate discipline and is determined by the Information Technology Graduate Committee, as stated in the SAR. It is also noted that applicants who do not meet all requirements have to undergo an interview with the Committee. The Committee then decides on the specific number and subject area of the bridging courses.

Turkish Republic citizens applying for master's programmes with a thesis are required to achieve a predetermined score on the ALES (Academic Personnel and Graduate Education Entrance Exam) or an equivalent exam such as GMAT or GRE, as specified by the Senate. These exam scores are not required for admission to the Master's program without a thesis.

Applicants to English Master's programmes at EMU must evidence appropriate proficiency in English and otherwise would have to have his/her English language qualification level assessed by an examination.

The experts considered the admission requirements to the Bachelor's programmes (English and Turkish) adequate and quite conducive on their part to achieving the intended programme learning outcomes. Regarding the prerequisites for enrolment in the Master's programme, the expert team discussed with programme coordinators the broad disciplinary scope of the subject-specific criteria, which also allows for a Bachelor's degree in "any related area". However, the programme coordinators convincingly assured that applicants whose Bachelor's degree raises concerns about the necessary prerequisite knowledge for the Master's programme would be required to undergo a preceding interview with the Information Technology Graduate Committee. Based on this and the potential need for deficiency courses to bridge any knowledge gaps, the expert team approves of the Master's programme entry requirements as well.

Criterion 1.5 Workload and Credits

Evidence:

- Respective chapter of the Self-Assessment Report (SAR)

- Module Handbooks annexed to the SAR; available on the internet:
- Study plans presented in Appendices C (for Bachelor's programme only); all study plans available in the respective Module Handbooks and on the internet: <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program/925?tab=curriculum> (for the Bachelor's programme); <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program-turkish/1648?tab=curriculum> (for the Turkish Bachelor's programme); <https://www.emu.edu.tr/en/programs/information-technology-masters-program-with-thesis/1669?tab=curriculum> (for the Master's programme with Thesis); <https://www.emu.edu.tr/en/programs/information-systems-masters-program-without-thesis/939?tab=curriculum> (for the Master's programme without Thesis) (Access: 04.07.2023)
- See information on the internet: <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program/925> (for the Bachelor's programme), <https://www.emu.edu.tr/en/programs/information-technology-undergraduate-program-turkish/1648> (for the Turkish Bachelor's programme), <https://www.emu.edu.tr/en/programs/information-technology-masters-program-with-thesis/1669> (for the Master's programme with Thesis), <https://www.emu.edu.tr/en/programs/information-technology-masters-program-without-thesis/1070> (for the Master's programme without Thesis) (Access: 04.07.2023)
- Relevant information in the Student Handbooks: <https://www.emu.edu.tr/media/assets/files/pages/it-student-handbook-2023.pdf> (Access: 04.07.2023); <https://www.emu.edu.tr/media/assets/files/pages/mtechstudenthandbook-2023-24.pdf> (for Master's programme with and without Thesis) (Access: 04.07.2023)
- Sample course assessment survey (Appendix E to the SAR)
- End-of-term course and instructor evaluation survey (Appendix H to the SAR)
- Audit discussions

Preliminary assessment and analysis of the peers:

The programmes indicate the workload using both EMU credits and ECTS credits. One ECTS credit is defined as 30 working hours, and each semester typically consists of an average of 28 and 32 ECTS in the Bachelor's programme, 26 – 32 ECTS in the Master's programme without Thesis, and 28 – 32 ECTS in the Master's programme with Thesis. While there is a recommended number and sequence of modules in the Bachelor's programme, no such framework exists for the two versions of the Master's programme. Since the standard duration of the Master's programmes is fixed (1,5 years duration for the programme without

thesis and 2 years for the programme with thesis), it can be inferred that each semester consists of three to four modules. Each module equals 8 ECTS, with the only exception of the term project in the programme without thesis (10 ECTS) and the Master Thesis in the one with thesis (60 ECTS).

All elements of the curriculum, including the summer training in the Bachelor's programme, are appropriately credited. The suitability of the workload is regularly assessed through various surveys conducted on a regular basis. It was explained to the expert team that if deviations from the expected workload are identified over an extended period, adjustments are made to either the content or the number of credits. During discussions with the students, the experts investigated whether the workload calculation and credit point allocation were realistic, and the students essentially confirmed this. However, the expert team expressed doubts that allocating only one ECTS credit point for an eight-week summer training in the fourth year of study adequately reflects the actual workload shared by the students. They were informed, though, that the programme managers are already re-considering this issue to better reflect the actual workload during summer training. While the experts were satisfied with the programme managers' announcement, they believed that a higher number of credits for the summer training is necessary.

The expert team generally approved of the workload assessment system in place as it seems to function internally. However, it was clear that students were not sufficiently familiar with the core principles of the ECTS system. Notably, there was no mention of the ECTS in the Student Handbook, which should serve as the primary source of information for the students. Therefore, the experts suggested increasing the students' awareness and understanding of the ECTS system, its objectives, and benefits. To this end, the recurrent reference in the Module Handbooks: "What is ECTS? Why ECTS is needed? How does it work?" was considered a valuable means; however, it is not actively linked with an information webpage presently.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Relevant chapter of the SAR
- Module Handbooks annexed to the SAR and available on the internet: <https://www.emu.edu.tr/media/assets/files/pages/it-modules-handbook-2023.pdf> (for the Bachelor's programme), <https://www.emu.edu.tr/media/assets/files/pages/bst-modules-handbook-2023.pdf> (for the Turkish Bachelor's pro-

gramme), <https://www.emu.edu.tr/media/assets/files/pages/mtechmodule-shandbook.pdf> (for the Master's programme with or without Thesis) (Access: 04.07.2023)

- Audit discussions

Preliminary assessment and analysis of the peers:

The teaching methodology for each course is described in the module descriptions compiled in the module handbook, which is accessible to students and stakeholders online. The experts confirmed that the methods used vary and are tailored to the specific subject and learning outcomes of the courses. Generally, the courses offer a combination of theoretical and practical elements. The experts considered this combination of theory and practice in addition to adequate self-study periods and sufficient time to prepare for examinations conducive to a thorough teaching/learning process. In this regard, they also took note of the lecturers' apparent efforts to engage student activating teaching methods and learning formats. The more so, as an appropriate EMU portfolio of higher education didactical course offerings apparently parallels these, in which the teaching staff could advance their didactical and pedagogical competences. Through project work and summer trainings included in the Bachelor's programme, advanced project work in the Master's programme without Thesis and research-related courses in the Master's programme with Thesis (albeit with reservation) respectively, students are encouraged to apply their acquired skills, which the experts considered to be effective preparation for their potential fields of professional or academic engagement.

During the discussions, particular attention was given to the teaching and learning process during the COVID-19 pandemic. The university transitioned to online teaching formats in late March 2020 and provided a variety of support measures for students, especially those residing in Turkey who are unable to physically be on the campus. Classes were (and, where applicable, still are) offered online through Microsoft Teams, and individual or group work is facilitated through Moodle and related platforms. Meanwhile, EMU has largely returned to the face-to-face mode of teaching. Only specific courses, mostly by lecturers from the industry, could still be carried out in an online format, for reasons of practicality and convenience of those lecturers. The experts attentively noticed that particularly these courses are regularly evaluated afterwards by the students. The students expressed satisfaction with the implementation of distance learning in the programmes during the pandemic and at the same time voiced relief at returning to the campus, the collaborative working atmosphere there and the opportunities to join their fellow students in the many social and cultural activities offered to them at EMU (e.g. in Student Societies and Student Clubs).

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

The expert panel considered that the requirements of the criterion were *not yet met* in relation to several issues (learning outcomes, research skills and summer training).

Learning outcomes (crit. 1.1)

The expert panel took note that SCT has already started to revise the formulation of learning outcomes in accordance with the indications given in the report. They recommended keeping up the respective requirement until evidence is given of an appropriate reformulation of the LO's (see below, sec. F, requirement 1).

Methodological skills and research competences / Master programme with thesis

The panel noted SCT's comments on how Master students are trained to undertake research in an appropriate way. At the same time, the programme coordinators themselves acknowledge that the most appropriate course in this respect – ITEC514-Research Methods and Ethics in Information Technology – is not a compulsory course, although it is highly recommended. The experts felt that in order to ensure that all Master students acquire adequate research skills, courses such as this or similar should be a compulsory part of the curriculum. They therefore suggested that such a requirement should be maintained (see below, sec. F, requirement 6).

The experts also noted the strategic aim of the programme coordinators to continue the *programme without thesis* by increasing its attractiveness to the market.

Area electives / all programmes

The experts were grateful to the programme coordinators for indicating how area electives were selected and offered to the students in the different programmes. They generally commended SCT for selecting area electives according to the needs of the students and the demands of the industry. At the same time, the expert panel recommended that the number of the area electives available per semester should be increased, as they noted an imbalance in this regard during the review discussions (see below, section F, recommendation 1).

Area electives / Bachelor's programmes

The expert panel understood that a programme with only one annual enrolment period (such as the Turkish Bachelor's programme) could hardly afford a semester-based offer, particularly of area electives. On the other hand, they argued that students in both Bachelor's programmes, which are essentially the same, should have access to all "area electives"

and that every effort should be made to ensure this. The panel recommends accordingly (see below, sec. F, recommendation 4).

Summer training / Bachelor's programmes

The expert panel recognized the proposed measures to ensure a continuous and reliable supervision and support of students during their summer training (internship). On the other hand, they identified shortcomings in this respect and therefore propose to maintain a requirement in this respect until effective measures have been taken.

Due to an unrealistic calculation of students' workload for their summer training and an underestimation of credits, the expert panel also upheld a related requirement (see below, section F, requirement 5). In this context, the experts welcomed the SCT's strategy to make the students more familiar with the aims and underlying principles of the ECTS.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Relevant chapter of the SAR
- Module Handbooks annexed to the SAR and available on the internet: <https://www.emu.edu.tr/media/assets/files/pages/it-modules-handbook-2023.pdf> (for the Bachelor's programme), <https://www.emu.edu.tr/media/assets/files/pages/bst-modules-handbook-2023.pdf> (for the Turkish Bachelor's programme), <https://www.emu.edu.tr/media/assets/files/pages/mtechmodule-shandbook.pdf> (for the Master's programme with or without Thesis) (Access: 04.07.2023)
- "Regulation for examinations and evaluation" available on the internet: http://mevzuat.emu.edu.tr/5-1-4-Rules-examinations_and_evaluations.htm (Access: 04.07.2023)
- Respective information in the Student Handbooks: <https://www.emu.edu.tr/media/assets/files/pages/it-student-handbook-2023.pdf> (Access: 04.07.2023); <https://www.emu.edu.tr/media/assets/files/pages/mtechstudenthandbook-2023-24.pdf> (for Master's programme with and without Thesis) (Access: 04.07.2023)
- Audit discussions

Preliminary assessment and analysis of the peers:

From the documents presented as well as the discussions with teaching staff and students, the experts concluded that examination rules and regulations are in place and communicated transparently at EMU and SCT, respectively.

Each course at EMU typically includes a minimum of one midterm and one final examination, which are scheduled during pre-determined examination weeks communicated in advance to the students. In addition, the teaching staff may incorporate minor assessments such as quizzes, project works, or presentations as part of the overall assessment approach. This flexible approach allows for a variety of assessment forms that address different competence areas.

However, the expert team observed that final examinations in programming courses solely in the form of written assessments may not be the most suitable approach. The team concurred with the students' perspective that final examinations for programming courses should include a fair amount of practical (programming) assignments to better align with the nature of the subject matter.

Overall, the assessment approach at EMU demonstrates a commitment to outcome-oriented evaluation, with a range of assessment methods utilized to assess students' competencies and knowledge acquisition.

Exams are described in the module descriptions and the respective Student Handbooks; students get detailed information about the assessment forms and targeted dates at the beginning of each semester. The final examination contributes a maximum of 50% to the final course grade, while the successful completion of the midterm exam is not considered to be a prerequisite for participation in the course's final examination.

Rules for make-up examinations and for re-sits are equally in place and understood by the students. Missed exams can be repeated within the same examination period, if students fail a course completely it needs to be repeated in the following semester.

It is commendable that SCT plans the midterm and final exams in a timely manner, ensuring that overlapping assessments are avoided. Overall, the students expressed satisfaction with the examination system and its organization. The expert team was particularly impressed by SCT's flexibility in adapting to the challenging assessment conditions during the COVID-19 pandemic.

However, students in the Turkish Bachelor's programme raised concerns about the inflexibility regarding exam termination, which can be attributed to the small student cohorts that make it difficult to establish additional student groups. Similarly, students in the Turkish programme expressed dissatisfaction with the requirement to retake courses, as these

courses are offered annually rather than on a semester basis, resulting in an additional semester of study. The experts recognized that both issues are closely linked to the available resources at SCT, and they believe that increasing student numbers in this programme will provide opportunities for SCT to address and alleviate these challenges.

The experts acknowledged that both the Bachelor's and the Master's programmes culminate in a capstone project, referred to as the "Graduation Project" for the Bachelor's programme, the "Master's Thesis" for the Master's programme *with* thesis, and the "Term Project" for the Master's programme *without* thesis. These capstone projects share the common requirement of students demonstrating their ability to work individually on a pre-defined task and generate written solutions for real-world disciplinary problems within a specified timeframe. In the case of the Master's programmes, students are also expected to present their solutions orally before an expert audience.

However, the experts noted that the Bachelor's Graduation Projects are typically conducted as group works, with each participant showcasing their individual contribution to the project. In contrast, the Master's thesis and the Term Project for both the Master's programmes *with* and *without* thesis are regarded as individual research papers. This raised questions regarding the ability of individual students to independently tackle assigned tasks in the context of the graduation projects. However, the programme coordinators clarified that the decision to focus on group projects was aimed at ensuring better supervision efficiency, project comparability, and appropriate evaluation standards. They assured the experts that significant efforts had been made to achieve objective results for each group participant, including the use of anonymous peer evaluation, which impacts the overall assessment.

Considering these explanations, the expert team did not raise further objections to the provision of collective Graduation Projects in the Bachelor's programme. The sample of Graduate Projects presented during the audit was deemed to meet the required Bachelor's level of attainment.

Regarding the Master's programmes, the Master's Thesis in the programme *with* thesis appeared to be unconventional in terms of length and scope. However, this provision does not contradict any formal requirements. The Master's theses observed by the experts on-site clearly demonstrated good quality at the Master's level, which is statistically confirmed. Achieving a "good" grade (Cumulative Grade-Point Average of 3.00 or better) is an absolute requirement in the Master's programmes.

In relation to the programme *without* thesis, the expectation for a comparable level of achievement, more aligned with the demands of the business world, was recognized in principle. However, upon closer examination of a sample of term projects, the experts

gained the impression that these projects mostly did not meet the expectations of a Master's level. While this might be understandable for a Master's programme that primarily focuses on the needs of industry and business companies, it does not satisfy the accreditation standards outlined in this report. Consequently, SCT must ensure that the term projects are consistently more demanding and meet the appropriate level of size and requirements, if the Master's programme without thesis is to be maintained. Considering the generally low student and graduate numbers in both programmes, regardless of the relatively short duration of their implementation, the expert team supports SCT's indication to phase out this Master's programme in the medium term.

In terms of curriculum and assessment though, the experts were assured that literature analysis is a regular component of the Master's programme *without* thesis too, involving both prescribed and self-researched articles. On the other hand, the expert team sought assurance that the Master's programme *with* thesis includes literature review, analysis, and implementation as integral parts of the programme. As there are also carefully formulated provisions for planning, implementing and conducting the various project works, the expert panel principally approved of their quality and quality assurance, solely exempting the term projects because of to the mentioned issues.

In general, the experts were convinced that the examination organization and the forms of exams are adequate to support the achievement of the modules' learning outcomes and contribute to an efficient study progress of the students.

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

The expert panel considered that the requirements of the criterion were *not yet met* in relation to several issues (term project and programming courses).

Exams in programming courses

The expert panel commended the SCT for its constructive approach to ensuring a sufficient proportion of practical work as part of the examinations in the future (relevant courses should include a 35% practical assessment component). However, they would like to see the necessary revision of the courses and redesign of the assessment requirements (see below, section F, requirement 2).

Term projects / Master programme without thesis

It was well noted by the experts that SCT plans to review its term project guidelines and requirements comprehensively in order to address concerns regarding the level and quality of the term projects. Evidence has to be provided that these concerns have been tackled

adequately. The expert panel maintained a suggested requirement to this end (see below, sec. F, requirement 7).

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Relevant chapter of the SAR
- Staff Handbook (Appendices F and G)
- EMU Strategic Plan 2017 – 2022; available on the Internet: <https://www.emu.edu.tr/media/assets/files/emu-strategic-plan-2017-2022.pdf> (Access: 04.07.2023), especially related Strategic Goal 12 on
- Audit discussions

Preliminary assessment and analysis of the peers:

Staff resources

As stated in the SAR, the available staff in the Bachelor's degree programmes consists of 24 academic staff, eight non-academic staff and seven research assistants contributing to the degree programmes (excluding the academic staff hired for the service courses taken from other departments (such as Mathematics, English, etc.). Of the 24 academic staff, 17 are full-time employees of EMU, seven part-time. In the Master's programme, in turn, the SAR lists 13 academic and eight non-academic staff members.

Regarding the teaching load of the academic staff, full-time staff is expected to teach 12 hours per week and 24 hours per year. As the experts were further informed, the number of required staff is planned before the academic year, taking into account the available staff and workload in accordance with the rules of EMU. If necessary, the coordinator informs the director and the university personnel affairs department to open a job vacancy for the specific field. It was clarified that the recruitment process for the degree programs is generally conducted based on a needs analysis. Upon reviewing the tables indicating the individual teaching load of academic staff for both the Bachelor's and Master's programs during a semester, the expert team identified a significant overload for some lecturers, while others remained below the maximum workload. However, the expert panel was informed that the workload can be balanced over the course of a year to accommodate varying demands.

Based on these figures and the information provided on the qualifications and professional backgrounds of the academic staff, the experts concluded that the personal resources were generally sufficient in terms of numbers and appropriate in relation to disciplinary expertise. However, the panel also observed that the staff composition at the time of the audit process predominantly consisted of individuals with an EMU career background. While the SCT acknowledges the value of internationally reputable lecturers in enhancing the overall quality of the reviewed degree programmes, the experts suggested that further recruitment efforts may be beneficial to diversify the staff composition.

Staff development

According to the SAR, the lecturers are offered and encouraged to attend a whole slew of courses in competence areas such as “Presentation and coaching”, “Teaching”, “Effective planning”, “Effective teaching techniques” and “Fair evaluation of the students”. The experts were convinced that these kinds of CPD courses contribute to the continuous personal development of the teaching staff and help align the teaching/learning process with the pedagogical, didactical, and subject-related demands.

In terms of research and professional development, instructors seem to be actively engaged in research activities, such as publishing research papers and participating in conferences. It was recognized that the university supports them in these endeavours through appropriate funding opportunities, irrespective of that they are expected to compensate for their teaching duties in some way, such as rescheduling or catching up on missed lectures. Generally, it was positively noted that the university has established a “Research Advisory Board” considering applications from students and instructors. Likewise, efforts to incorporate research findings into the teaching process were considered highly valuable, with individual instructors reporting on the transfer of research outcomes. While acknowledging this deliberative and proactive research policy of EMU and the research endeavours of the School of Computing and Technology, the experts are nevertheless inclined to supporting the responsible School in intensifying its research capacity in the subject fields related to the reviewed programmes.

Criterion 3.2 Student Support and Student Services

Evidence:

- Relevant chapter of the SAR
- General information on student services available at EMU: <https://www.emu.edu.tr/campus-life> (Access: 04.07.2023)
- Information on Student Clubs on the internet: <https://www.emu.edu.tr/en/campus/social-and-cultural-activities/student-societies-clubs/1236> (Access: 04.07.2023)

- Respective information in the Student Handbooks: <https://www.emu.edu.tr/media/assets/files/pages/it-student-handbook-2023.pdf> (Access: 04.07.2023); <https://www.emu.edu.tr/media/assets/files/pages/mtechstudenthandbook-2023-24.pdf> (for Master's programme with and without Thesis) (Access: 04.07.2023)
- "Eastern Mediterranean University Regulation for Education and Exam Applications for Students with Disabilities", available on the internet archive of "Rules and Regulations": <http://mevzuat.emu.edu.tr/5-4-7-RegEduExamAppStdwD.htm> (Access: 04.07.2023)
- Audit discussions

Preliminary assessment and analysis of the peers:

In general, the students in the programmes being reviewed felt well-supported and guided with regard to administrative and academic affairs or other issues coming up during their studies. In this respect, the experts especially acknowledged that the university provides psychological and medical support for students. In addition, efforts have been made to ensure barrier-free access to buildings for students with disabilities. For example, classes have been relocated to the ground floor to facilitate the participation of disabled individuals. In addition, the "Eastern Mediterranean University Regulation for Education and Exam Applications for Students with Disabilities", listed in EMU's publicly available archive of applicable rules and regulations, confirmed the impression that EMU took considerable efforts to appropriately address the specific needs of disabled persons as well.

Concerning academic guidance, typically each student is assigned an academic supervisor within the department who provides guidance and assistance throughout their academic journey. Additionally, there is a wide range of clubs and student activities available. Amongst many others, an IT Club has been established by the department to foster an environment where IT students can exchange information and views based on their IT development experience. A faculty member has been appointed as the mentor of the club to guide the students. During the meeting with students, there were a few expressions of disappointment regarding the treatment of individuals in the Club. These expressions were highly disputed. The expert team was convinced that the EMU mentor of the club is genuinely committed to establishing and maintaining it as a communication hub, where students can engage in vibrant discussions on IT-related topics, regardless of personal characteristics. However, since they were unable to validate the concerns raised during the audit discussion, they would like to mention it in the report as an indication for EMU to address and ensure equal treatment for all club members, as it has committed to, regardless of language and nationality.

The role of the students' council has also evolved over the years, with student representatives now being included in all relevant department/school/university committees and thus participating in important decision-making processes. The experts strongly supported this policy of encouraging students to take up an active role in shaping the teaching and learning process and the wider perspectives and attractiveness of EMU at once. In addition, they explicitly lauded the assistance and support of students by the academic staff, in particular concerning the individual study planning.

Regarding individual study progress, the peers recognized the strong connection between students and teaching staff at EMU. The students greatly appreciate the support they receive from the teaching staff, who are available at any time. Most lecturers can be reached not only during office hours but also through mobile phones or via WhatsApp. This close connection becomes particularly evident during internships. Concerning the support of Master students particularly, the experts highlighted that the students do have access to many online databases such as Scopus, Web of Science, etc., which is indispensable at Master's level of education and with respect to the research work they are expected to do.

Given the limited size of the IT sector in North Cyprus, it is not guaranteed that all students will find suitable placements for the summer training within the country. However, company representatives and teaching staff explained that they work closely together to ensure placements for students who face difficulties in securing them independently. Although company internships were not possible during the COVID-19 pandemic, the staff developed long-term projects for students to complete online, offering a suitable alternative.

In conclusion, the peers were convinced that the existing support and assistance mechanisms are effectively contributing to the students' progress.

Criterion 3.3 Funds and Equipment

Evidence:

- Relevant chapter of the SAR
- EMU Strategic Plan 2017 – 2022; available on the Internet: <https://www.emu.edu.tr/media/assets/files/emu-strategic-plan-2017-2022.pdf> (Access: 04.07.2023), especially related Strategic Goals 10 and 14 on Educational Infrastructure and Financial Resources
- “Regulation for Student Scholarship and Discounted Tuition Fee Implementation”, available on the internet: http://mevzuat.emu.edu.tr/5-1-2-Rules-Scholarship_regulations.htm (04.07.2023)

- Onsite inspection of the facilities and laboratories of the School of Computing and Technology
- Audit discussions

Preliminary assessment and analysis of the peers:

The experts were aware of the fact that tuition fees are the main funding source of EMU, even when there are limited additional funds provided by the Ministry of Education of Northern Cyprus and some financial support of the Turkish Republic, in particular with respect to infrastructural projects. According to the SAR, tuition fees are determined on an annual basis by the Board of Trustees of EMU and fees for individual students are decided according to the nationality, programme and amount of scholarship he/she has been granted. The scholarship opportunities at offer were highly welcomed by the expert team as they facilitate the students' aspirations to pursue a higher education career path. At the same time, the catalogue of 25%, 50% and 100% scholarship options puts additional stress on the financial balance of EMU, forcing the university to raise the number of students and/or the share of external funding, in particular public funding. However, in at least one instance just the opposite has happened obviously, as state allocations for research grants have seen a significant decline in recent years, from 14% to just 1%. Before this background, the expert team positively noted that EMU aims to stabilize the contribution and further institutionalize the responsibility and engagement of the Ministry.

As mentioned earlier, the allocation of funds for new personnel is based on needs analysis. The experts learned that a minimum of three academic experts must be present before additional funds can be requested for new degree programmes. The experts found the excellent understanding and collaboration between the SCT and the Rectorate, which was convincingly demonstrated throughout the audit, highly reassuring in terms of the financial basis of both EMU and the School.

As regards the physical infrastructure, the SAR mentions 8 classrooms, 11 computer laboratories, 1 seminar/meeting room and 1 seminar hall in the School building. On their onsite inspection tour through the facilities and Computer laboratories, the experts received the impression of an overall modern physical basis of the reviewed programmes. This picture was reinforced by the Schools' comment that five of the labs had already been updated and the rest will be modernized in the near future, with the necessary funding assigned yet.

However, the expert team also noticed during the inspection on site that up-to-date computing, simulation and hardware equipment is not equally accessible to all students. In their view, this critical issue needs to be addressed with urgency in order to enable all of them to achieve the intended learning outcomes in the set study time.

It is worth mentioning that due to a limited number of qualified job opportunities in North Cyprus, EMU has actively fostered close ties with the Turkish-Cyprus Chamber of Trade and Commerce. Likewise, the School has an advisory board and, through its Quality Committee, maintains ties with computer companies through biannual meetings. The expert team recognizes that this cooperation has significantly enhanced EMU's outreach to the relevant job markets. The experts want to explicitly highlight this as one of the university's strengths.

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

The expert panel considered that the requirements of the criterion were *not yet fully met* in terms of computer and hardware equipment.

Physical equipment of SCT

The expert panel took note of the SCT's plans to continuously update and modernise its physical facilities in order to provide all students with equal access to the latest computing and hardware equipment. The experts also noted that a request in this effect had already been submitted to the rector's office for approval. The panel was confident that the SCT would be successful in its efforts, but until it had done so, the proposed requirement to this effect was maintained (see below, sec. F, requirement 3).

Recruitment of international lecturers and research capacity

The expert panel commended SCT for its efforts to recruit international lecturers for its degree programmes and understood the restrictions the School faces in this regard in recent years. The nevertheless maintained their original recommendation to this effect (see below, sec. F, recommendation 2). Likewise, the experts confirmed their general support for activities aimed at strengthening the research basis of the SCT for reasons detailed above (see below, sec. F, requirement 5).

Student support

The expert panel commended SCT for its activating role in strengthening the students' role in the learning process. The experts were grateful for the assurances that both the SCT and the IT-Club would always strive to meet international standards in terms of diversity and inclusion and that any shortcomings in this respect would be followed up and adequately addressed.

4. Transparency and Documentation

Criterion 4.1 Module descriptions

Evidence:

- Module Handbooks annexed to the SAR and available on the internet: <https://www.emu.edu.tr/media/assets/files/pages/it-modules-handbook-2023.pdf> (for the Bachelor's programme), <https://www.emu.edu.tr/media/assets/files/pages/bst-modules-handbook-2023.pdf> (for the Turkish Bachelor's programme), <https://www.emu.edu.tr/media/assets/files/pages/mtechmodule-handbook.pdf> (for the Master's programme with or without Thesis) (Access: 04.07.2023)
- Audit discussions

Preliminary assessment and analysis of the peers:

Comprehensive module descriptions are provided for all modules/course of the degree programmes under consideration. The Module Handbook for the Turkish Bachelor's programme is presented in a bi-lingual English/Turkish draft. All Module Handbooks are made accessible on the webpages of the School of Computing and Technology.

The experts considered the module/course descriptions concise, instructive and comprehensive. Thus, the descriptions give an informative account of the overall course content, the general learning outcomes of the course, the teaching methodology, requirements and methods of assessment (including grading criteria), the agenda of the courses (including a respective time plan), the calculated student workload, distributed between attendance time in different teaching formats and (remaining) self-study time, and literature references. It was also well noted that meaningful descriptions have also been inserted for the Summer Training and the Graduation Project in the Bachelor's programmes as well as for the Master Thesis and the Term Project in the Master's programme with and without Thesis.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Relevant chapter of the SAR
- Sample Diploma Supplements (Appendices K1 – K3 of the SAR)

Preliminary assessment and analysis of the peers:

Sample Diploma Supplements have been presented for the Bachelor's and for both Master's programmes (with and without Thesis). They are tailored according to the model developed by the European Commission, Council of Europe and UNESCO/CEPES and contain all relevant information regarding the duration, structure, contents, learning outcomes of the degree programmes and the individual performance and final marks of the graduate. They thus adequately inform stakeholders and facilitate comparisons between graduates of different HEIs and Higher Education systems.

Criterion 4.3 Relevant rules

Evidence:

- Relevant chapter of the SAR
- Rules and regulations applicable at EMU available on the internet (mostly in English, some in Turkish only): <http://mevzuat.emu.edu.tr/content-en.htm> (Access: 04.07.2023)

Preliminary assessment and analysis of the peers:

The experts took note that HEIs' rules and regulations are determined by law, and that the EMU regulations serve as a model for universities in Northern Cyprus. Rules and regulations for the admission, course of study, recognition, and completion of the degree programmes under review have been developed and implemented accordingly. These regulations are compiled in a folder and made publicly available on the internet. They are presented in English, while some statutes concerning the governance of EMU are currently available only in Turkish. The expert team suggested providing English translations of this legal framework as well.

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

The expert panel considered that the requirements for documentation and transparency were *adequately met*.

The panel noted positively that the SCT had already submitted a request to the Rector's Office to provide English translations of the complete legal framework of the degree programmes under consideration.

5. Quality Management: Quality Assessment and Development

Criterion 5 Quality Management: Quality Assessment and Development

Evidence:

- Relevant chapter of the SAR including statistical data
- Information about quality assurance activities, instruments and processes as well as about the “Internal Academic Quality Assurance Committee” and its internal rules and procedures are available on the internet: <https://sct.emu.edu.tr/en/about-us/academic-quality-assurance> (Access: 04.07.2023)
- Survey templates (Appendices E, H, I, and L)

Preliminary assessment and analysis of the peers:

The experts learned that EMU was first established as a state school in 1979 with a focus on educating technicians. A dedicated law was then passed to convert the vocational school into a university. As EMU representatives outlined in the audit, today the institution attracts students from 108 different countries and employs lecturers from 35 different countries. According to that, the university’s claim is to become a top educational institution in the region and strives to maintain and improve its reputation through reputable research.

An important goal in that regard is to have all degree programmes accredited by various national and international accreditation agencies. Obviously, there is a political will to undergo international accreditation to enhance the internal quality management of the university. Hence, external quality assurance procedures, such as evaluations and accreditations conducted by various QA agencies and organizations, form a crucial pillar of EMU’s quality assurance system. In addition, the concerted efforts of EMU management and programme coordinators to establish an institution-wide quality culture are commendable. This encompasses active engagement with major stakeholders, particularly students and lecturers involved in the degree programmes. Aligning values, attitudes, and strategic goals with the institution's vision, mission, and operational targets appears to be a primary focus for all parties involved.

The expert team observed that EMU places significant emphasis on both external and internal quality assurance mechanisms and feedback cycles to continually improve and enhance the quality of teaching and learning processes. This entails not only defining formal processes and implementing suitable monitoring instruments, but also actively soliciting

feedback, analysing results, and engaging in discussions with all stakeholders. EMU's commitment to maintaining functioning feedback loops is evident and aligns with the recommendations derived from recent external quality assurance procedures.

Overall, the team recognizes and commends EMU's proactive approach in leveraging external and internal quality assurance mechanisms to foster continuous improvement in teaching and learning processes.

In particular, a variety of surveys, including mandatory and non-compulsory ones such as the "Halfway Survey" in the midst of the semester, the "End-of-Semester Evaluation", the "Course Assessment Survey", the non-compulsory "Exit Survey", as well as Alumni Surveys, are conducted to gather feedback from students, teaching staff, and external stakeholders on various programme-related topics. Informal meetings between programme coordinators and students also provide an avenue for students to express their concerns and address difficulties in a timely manner. As stated in the SAR and confirmed by the management of the SCT during the audit, all collected information regarding programmes, students, and the performance of both students and instructors is then conveyed to the "Internal Academic Quality Assurance Committee" (IAQAC) for assessment and decision-making. The experts noted that elected student representatives from each faculty and school, who form an independent student council representing the student body, are invited to IAQAC meetings to raise concerns or issues and seek remedies. Additionally, the experts observed that student counsellors at the SCT also serve as a communication channel with the student body. These findings convinced the expert team of EMU's and SCT's dedicated efforts to establish a robust governance structure for quality assurance, fostering a strong quality culture and ensuring effective closure of feedback loops.

However, during the discussions with students, the experts identified individual cases where the quality assurance processes did not work as intended. Furthermore, the expert team had the impression that students could benefit from improved information about the quality assurance instruments and procedures at SCT. Therefore, they recommended that SCT continue implementing the diverse methods and instruments of quality assurance effectively and consistently, while also enhancing communication with students. It is crucial to ensure that feedback cycles are consistently closed at all levels, if necessary.

However, the experts would like to conclude this section by commending EMU and SCT for their dedicated efforts and commitment to implementing a systematic approach to quality culture and quality assurance, specifically in relation to their core teaching and learning processes.

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

The expert panel considered that the quality assurance requirements of the degree programmes were *adequately met*.

In particular, the experts recognised the SCT's courageous commitment to further implement and practice the newly designed quality assurance tools and processes. In order to further develop the quality culture at SCT, the panel decided to support these efforts through a related recommendation (see below, sec. F, recommendation 3).

D Additional Documents

No additional documents needed.

E Comment of the Higher Education Institution (24.08.2023)

The institution provided a detailed statement to the report, which considered in the concluding section of each standard (“grey boxes”).

F Summary: Expert recommendations (11.09.2023)

Taking into account the comments given by EMU, the experts summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ba Information Technology	With requirements for one year	Euro-Inf®	30.09.2030
Ba Information Technology (Turkish)	With requirements for one year	Euro-Inf®	30.09.2030
Ma Information Technology without thesis	With requirements for one year	Euro-Inf®	30.09.2030
Ma Information Technology with thesis	With requirements for one year	Euro-Inf®	30.09.2029

Requirements

For all degree programmes

- A 1. (ASIIN 1.1) Reformulate the intended programme learning outcomes in such manner that they more precisely address the subject-related competence areas at Bachelor's and Master's level respectively.
- A 2. (ASIIN 2) Ensure that final examinations of programming courses do comprise an adequate amount of practical (programming) assignments.
- A 3. (ASIIN 3.3) Ensure the Department / local accessibility of up-to-date computing, simulation and hardware equipment to all students in the programmes in order to achieve the intended learning outcomes of the respective courses.

For the Bachelor programmes

- A 4. (ASIIN 1.3) Ensure that the coordinator of the summer training (internship) is readily accessible for students' issues and requests especially during the training.
- A 5. (ASIIN 1.5) Ensure that the number of ECTS awarded for the summer training (internship) more realistically reflects the students' respective workload.

For the Master programme with thesis

A 6. (ASIIN 1.3) Methodological skills and research competences need to be strengthened by including relevant compulsory courses in the curriculum of the programme.

For the Master programme without thesis

A 7. (ASIIN 2) If the Master programme is to be maintained, the „term project“ needs to be more demanding and level-adequate in terms of size and requirements.

Recommendations

For all degree programmes

- E 1. (ASIIN 1.3) It is recommended that the number of available „area electives“ be increased according to the possibilities of the school/department.
- E 2. (ASIIN 3.1) It is recommended that the Department intensifies its efforts to recruit international lecturers in order to take benefit from the external expertise.
- E 3. (ASIIN 5) It is recommended to continue implementing the diverse methods and instruments of quality assurance effectively and consistently, while also enhancing communication with students. Feedback cycles should be closed consistently at all levels, if needed.

For the Bachelor’s programmes

E 4. (ASIIN 1.3) It is recommended that all „area electives“ are offered in both Turkish and English.

For the Master’s programmes

E 5. (ASIIN 3.1) It is recommended that the department strengthens its research activities in order to raise the scientific level of the Master’s programme.

G Comment of the Technical Committee 04- Informatics/Computer Science (14.09.2023)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedure, especially recommendation E 4. Since, in the opinion of the TC, the feedback loop of the evaluations is not consistently closed, criterion 5 is not yet fully met, which is why it is in favor of converting recommendation E 3 into a new requirement A 4. Furthermore, the TC proposes editorial changes to requirements A 6, A 7 and A 8 as well as to recommendations E 4 for clarification. The TC is also in favor of rewording recommendation E 1 to make it clearer. Otherwise, the TC agrees with the experts' assessment.

Assessment and analysis for the award of the Euro-Inf® Label:

The Technical Committee deems that the intended learning outcomes of the degree programmes do comply with the Subject-Specific Criteria of the Technical Committee 04 – Informatics/Computer Science.

The Technical Committee 04 – Informatics/Computer Science recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Information Technology	With requirements for one year	30.09.2030	Euro-Inf®	30.09.2030
Ba Information Technology (Turkish)	With requirements for one year	30.09.2030	Euro-Inf®	30.09.2030
Ma Information Technology without thesis	With requirements for one year	30.09.2030	Euro-Inf®	30.09.2030
Ma Information Technology with thesis	With requirements for one year	30.09.2030	Euro-Inf®	30.09.2029

Requirements

For all degree programmes

- A 1. (ASIIN 1.1) Reformulate the intended programme learning outcomes in such manner that they more precisely address the subject-related competence areas at Bachelor's and Master's level respectively.
- A 2. (ASIIN 2) Ensure that final examinations of programming courses do comprise an adequate amount of practical (programming) assignments.
- A 3. (ASIIN 3.3) Ensure the Department / local accessibility of up-to-date computing, simulation and hardware equipment to all students in the programmes in order to achieve the intended learning outcomes of the respective courses.
- A 4. (ASIIN 5) The diverse methods and instruments of quality assurance have to be implemented effectively in order to close the feedback loop consistently.

For the Bachelor programmes

- A 5. (ASIIN 1.3) Ensure that the coordinator of the summer training (internship) is readily accessible for students' issues and requests especially during the training.
- A 6. (ASIIN 1.5) Ensure that the number of ECTS awarded for the summer training (internship) realistically reflects the students' respective workload.

For the Master programme with thesis

- A 7. (ASIIN 1.3) Methodological skills and research competences need to be strengthened by including relevant compulsory courses in the curriculum of the programme in order to meet EQF-7 level.

For the Master programme without thesis

- A 8. (ASIIN 2) If the Master programme is to be maintained, the „term project“ needs to be more demanding and level-adequate in terms of size and requirements in order to meet EQF-7 level.

Recommendations

For all degree programmes

- E 1. (ASIIN 1.3) It is recommended that the school/department increases the number of available „area electives“ according to their capabilities.

E 2. (ASIIN 3.1) It is recommended that the Department intensifies its efforts to recruit international lecturers in order to take benefit from the external expertise.

For the Bachelor's programmes

E 3. (ASIIN 1.3) It is recommended to offer all „area electives“ in both Turkish and English.

For the Master's programmes

E 4. (ASIIN 3.1) It is recommended that the department strengthens its research activities in order to raise the scientific level of the Master's programme.

H Decision of the Accreditation Commission (22.09.2023)

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

The AC discussed the procedure and agreed with TC 04 that recommendation E 3 should be changed to a new requirement (A 4). In addition, the AC confirms the proposed editorial changes to requirements A6, A7 and A8 as well as to recommendations E 1 and E 4. Otherwise, the AC agrees with the assessment of the experts and the technical committees.

Assessment and analysis for the award of the Euro-Inf® Label:

The Accreditation Commission deems that the intended learning outcomes of the degree programmes do comply with the Subject-Specific Criteria of the Technical Committee 04 – Informatics/Computer Science.

The Accreditation Commission decides to award the following seals:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Information Technology	With requirements for one year	30.09.2030	Euro-Inf®	30.09.2030
Ba Information Technology (Turkish)	With requirements for one year	30.09.2030	Euro-Inf®	30.09.2030
Ma Information Technology without thesis	With requirements for one year	30.09.2030	Euro-Inf®	30.09.2030
Ma Information Technology with thesis	With requirements for one year	30.09.2029	Euro-Inf®	30.09.2029

Requirements

For all degree programmes

- A 1. (ASIIN 1.1) Reformulate the intended programme learning outcomes in such manner that they more precisely address the subject-related competence areas at Bachelor's and Master's level respectively.
- A 2. (ASIIN 2) Ensure that final examinations of programming courses do comprise an adequate amount of practical (programming) assignments.
- A 3. (ASIIN 3.3) Ensure the Department / local accessibility of up-to-date computing, simulation and hardware equipment to all students in the programmes in order to achieve the intended learning outcomes of the respective courses.
- A 4. (ASIIN 5) The diverse methods and instruments of quality assurance have to be implemented effectively in order to close the feedback loop consistently.

For the Bachelor programmes

- A 5. (ASIIN 1.3) Ensure that the coordinator of the summer training (internship) is readily accessible for students' issues and requests especially during the training.
- A 6. (ASIIN 1.5) Ensure that the number of ECTS awarded for the summer training (internship) realistically reflects the students' respective workload.

For the Master programme with thesis

- A 7. (ASIIN 1.3) Methodological skills and research competences need to be strengthened by including relevant compulsory courses in the curriculum of the programme in order to meet EQF-7 level.

For the Master programme without thesis

- A 8. (ASIIN 2) If the Master programme is to be maintained, the „term project“ needs to be more demanding and level-adequate in terms of size and requirements in order to meet EQF-7 level.

Recommendations

For all degree programmes

- E 1. (ASIIN 1.3) It is recommended that the school/department increases the number of available „area electives“ according to their capabilities.

E 2. (ASIIN 3.1) It is recommended that the Department intensifies its efforts to recruit international lecturers in order to take benefit from the external expertise.

For the Bachelor's programmes

E 3. (ASIIN 1.3) It is recommended to offer all „area electives“ in both Turkish and English.

For the Master's programmes

E 4. (ASIIN 3.1) It is recommended that the department strengthens its research activities in order to raise the scientific level of the Master's programme.

I Fulfilment of Requirements (24.09.2024)

Analysis of the experts and the Technical Committee (05.09.2024)

Requirements

For all degree programmes

- A 1. (ASIIN 1.1) Reformulate the intended programme learning outcomes in such manner that they more precisely address the subject-related competence areas at Bachelor's and Master's level respectively.

Initial Treatment	
Experts	Fulfilled. Justification: The Learning outcomes have been reformulated to address specific focuses in Bachelor's and Master's programmes. The re-fomulation of PLO is now more clearly differentiating between Masters („scientific research, design and implement strategies“ and/or „advanced project management skills“) and Bachelors (apply technical and educational skills). The requirement can therefore be considered fulfilled. However, the experts recommend differentiating the descriptions of the Master's programme with and without a thesis more clearly.
TC 04	Fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts.
AC	Fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts.

- A 2. (ASIIN 2) Ensure that final examinations of programming courses do comprise an adequate amount of practical (programming) assignments.

Initial Treatment	
Experts	Fulfilled. Justification: Practical programming skills and training have been enhanced and tested in numerous courses, so that the requirement is considered fulfilled. The HEI describes how they do permanent assessments during practical programming courses though still do the final written exam. While the first seems to be more informal and impractical when groups are working in class

	together, the latter could still be too abstract for an exam in programming. Therefore, the experts would like to recommend to implement "practical" exams instead of written ones in the long run.
TC 04	Fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts.
AC	Fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts.

- A 3. (ASIIN 3.3) Ensure the Department / local accessibility of up-to-date computing, simulation and hardware equipment to all students in the programmes in order to achieve the intended learning outcomes of the respective courses.

Initial Treatment	
Experts	Fulfilled. Justification: The hardware equipment of labs and their accessibility has improved. The rectorates funding is sustainable, and purchases already made are evidence of the development requested by the experts.
TC 04	Fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts.
AC	Fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts.

- A 4. (ASIIN 5) The diverse methods and instruments of quality assurance have to be implemented effectively in order to close the feedback loop consistently.

Initial Treatment	
Experts	Not (completely) fulfilled. Justification: The experts already recognise improvements in quality assurance. It is promising that institutional responsibility and reporting has been shifted to the Rectorate. However, it is still not formally ensured that students are informed about the results of the evaluations and that the feedback loop is thus closed.
TC 04	Not (completely) fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts.

AC	Not (completely) fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts.
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For the Bachelor's programmes

A 5. (ASIIN 1.3) Ensure that the coordinator of the summer training (internship) is readily accessible for students' issues and requests especially during the training.

Initial Treatment	
Experts	Fulfilled. Justification: .The internship coordinator has formally ensured and implemented weekly regular availability.
TC 04	Fulfilled. Vote: unanimous (Ms. Szczerbicka does not participate in the vote) Justification: The TC follows the assessment of the experts.
AC	Fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts.

A 6. (ASIIN 1.5) Ensure that the number of ECTS awarded for the summer training (internship) realistically reflects the students' respective workload.

Initial Treatment	
Experts	Fulfilled. Justification: The workload of the internships has been calculated based on a clear and realistic formula.
TC 04	Fulfilled. Vote: unanimous (Ms. Szczerbicka does not participate in the vote) Justification: The TC follows the assessment of the experts.
AC	Fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts.

For the Master's programme with thesis

A 7. (ASIIN 1.3) Methodological skills and research competences need to be strengthened by including relevant compulsory courses in the curriculum of the programme in order to meet EQF-7 level.

Initial Treatment	
Experts	Not fulfilled.

	Justification: The EMU introduced four new compulsory modules: “511: IT Project Management”, “513: Advanced Software Design and Development”, “514: Research methods and Ethics in IT”, “521: Computer Networking Applications”. However, the experts are of the opinion that the modules 511 and 521 are not clearly related to improving research skills. Therefore, the experts would still like to see more courses linked to IT research in order to meet the scientific requirements of the Master's programmes, especially the Master's with thesis. The experts therefore do not yet consider the requirement to be fulfilled.
TC 04	Not (completely) fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts.
AC	Not (completely) fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts.

For the Master’s programme without thesis

- A 8. (ASIIN 2) If the Master programme is to be maintained, the „term project“ needs to be more demanding and level-adequate in terms of size and requirements in order to meet EQF-7 level.

Initial Treatment	
Experts	Not fulfilled. Justification: The HEI’s comments describe intentions, but not final solutions, as it is still work in progress. A formal and binding module description is still missing.
TC 04	Not fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts.
AC	Not fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts.

Decision of the Accreditation Commission (24.09.2024)

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
Ba Information Technology	Requirement 4 not fulfilled	Euro-Inf®	6 months prolongation
Ba Information Technology (Turkish)	Requirement 4 not fulfilled	Euro-Inf®	6 months prolongation
Ma Information Technology without thesis	Requirements 4, 8 not fulfilled	Euro-Inf®	6 months prolongation
Ma Information Technology with thesis	Requirements 4, 7 not fulfilled	Euro-Inf®	6 months prolongation

Appendix: Programme Learning Outcomes and Curricula

According to SAR, the Bachelor's programmes Information Technology shall achieve the following objectives and learning outcomes (intended qualifications profile):

"Graduates

- Apply problem solving skills, core IT concepts, efficient practices and standards to Information Technologies
- Identify and evaluate organizational requirements with the current and emerging technologies
- Select, design, integrate and administer IT-based solutions within an organizational environment
- Use strong analytical and critical thinking skills as well as practical knowledge within the field of IT
- Be equipped with the theoretical background to pursue graduate level (second cycle) studies
- Communicate effectively, both in writing and in speaking
- Demonstrate the ability to participate effectively in the planning and execution of team-based projects
- Describe the impact of IT solutions in a global, societal, and ethical context
- Describe the need for continuous learning
- Follow the latest developments within the field of IT
- Use practical skills which is compatible with the business requirements
- Be broadly educated"

The following **curriculum** is presented:

0 Appendix: Programme Learning Outcomes and Curricula

FRESHMAN YEAR

First Year Fall Semester (16/139 Credits, 28/240 ECTS)								
Sem.	Ref Code	Course Code	Full Course Title	Course Category	Credit			Prerequisites
					(Le/La/T)	EMU	ECTS	
1	35711	ITEC103	Information Technology Fundamentals	AC	(2,2,0)	3	2	
1	35712	ITEC113	Algorithms and Programming Techniques	AC	(3,2,0)	4	9	
1	35713	ITEC161	Introduction to Business	AC	(3,0,0)	3	7	
1	35714	MATH133	Basic Mathematics	AC	(3,0,1)	3	6	
1	35715	ENGL191	Communication in English - I	UC	(3,0,1)	3	4	

First Year Spring Semester (18/139 Credits, 32/240 ECTS)								
Sem.	Ref Code	Course Code	Full Course Title	Course Category	Credit			Prerequisites
					(Le/La/T)	EMU	ECTS	
2	35721	ITEC114	Structured Programming	AC	(3,2,0)	4	9	ITEC113
2	35722	ITEC122	Introduction to Multimedia	AC	(2,2,0)	3	7	ITEC103
2	35723	MATH134	Discrete Mathematics for Information Technology	AC	(3,0,1)	3	6	MATH133
2	35724	ENGL192	Communication in English - II	UC	(3,0,1)	3	4	ENGL191
2	35725	TUSL181 HIST280	Turkish as a Foreign Language History of Turkish Reforms	UC	(2,0,0)	2	2	
2	35726	UE-01	University Elective - I	UE	(3,0,0)	3	4	

SOPHOMORE YEAR

Second Year Fall Semester (18/139 Credits, 30/240 ECTS)								
Sem.	Ref Code	Course Code	Full Course Title	Course Category	Credit			Prerequisites
					(Le/La/T)	EMU	ECTS	
3	35731	ITEC212	Database Management Systems	AC	(3,2,0)	4	6	
3	35732	ITEC213	Data Structures and Applications	AC	(3,2,0)	4	6	ITEC114
3	35733	ITEC215	Human Computer Interaction	AC	(3,0,1)	3	6	
3	35734	ITEC229	Client-Side Internet and Web Programming	AC	(3,2,0)	4	6	
3	35735	ITEC255	Computer Organization and Architecture	AC	(3,0,1)	3	6	

Second Year Spring Semester (20/139Credits, 30/240 ECTS)								
Sem.	Ref Code	Course Code	Full Course Title	Course Category	Credit			Prerequisites
					(Le/La/T)	EMU	ECTS	
4	35741	ITEC202	Operating Systems	AC	(3,2,0)	4	6	ITEC255
4	35742	ITEC224	Database Programming	AC	(3,2,0)	4	6	ITEC212
4	35743	ITEC230	Rich Internet Application (RIA) Development	AC	(3,2,0)	4	6	ITEC229
4	35744	ITEC243	Object Oriented Programming	AC	(3,2,0)	4	6	ITEC114
4	35745	ITEC259	Digital Logic Design	AC	(3,2,0)	4	6	

JUNIOR YEAR

Third Year Fall Semester (18/139 Credits, 31/240 ECTS)								
Sem.	Ref Code	Course Code	Full Course Title	Course Category	Credit			Prerequisites
					(Le/La/T)	EMU	ECTS	
5	35751	BTBS309	Computer Networks - I	AC	(4,0,0)	4	7	
5	35752	BTBS315	System Analysis and Design	AC	(3,2,0)	4	8	
5	35753	BTBS327	Server-Side Internet and Web Programming	AC	(3,2,0)	4	6	BTBS230, BTBS212
5	35754	MATE211	Introduction to Statistics	AC	(3,0,1)	3	6	
5	35755	UE-02	University Elective - II	UE	(3,0,0)	3	4	

Third Year Spring Semester (17/139 Credits, 29/240 ECTS)								
Sem.	Ref Code	Course Code	Full Course Title	Course Category	Credit			Prerequisites
					(Le/La/T)	EMU	ECTS	
6	35761	BTBS310	Computer Networks - II	AC	(3,2,0)	4	7	BTBS309
6	35762	BTBS314	Multi-Platform Programming	AC	(3,2,0)	4	6	BTBS243
6	35763	BTBS316	Software Engineering	AC	(3,0,1)	3	7	BTBS315
6	35764	BTBS317	Ethical and Social Issues in Information Systems	AC	(3,0,0)	3	3	
6	35765	AE-01	Area Elective I	AE	(3,0,0)	3	6	

SENIOR YEAR

Fourth Year Fall Semester (17/139 Credits, 32/240 ECTS)								
Sem.	Ref Code	Course Code	Full Course Title	Course Category	Credit			Prerequisites
					(Le/La/T)	EMU	ECTS	
7	35771	BTBS400	Summer Training	AC	(0,0,0)	0	1	
7	35772	BTBS403	Graduation Project Orientation	AC	(1,0,0)	1	3	
7	35773	BTBS413	Information System Security	AC	(3,2,0)	4	5	
7	35774	BTBS415	Analysis of Algorithms	AC	(3,0,1)	3	6	
7	35775	BTBS421	Management Information Systems	AC	(3,0,1)	3	5	
7	35776	AE-02	Area Elective - II	AE	(3,0,0)	3	6	
7	35777	AE-03	Area Elective - III	AE	(3,0,0)	3	6	

Fourth Year Spring Semester (15/139 Credits, 28/240 ECTS)								
Sem.	Ref Code	Course Code	Full Course Title	Course Category	Credit			Prerequisites
					(Le/La/T)	EMU	ECTS	
8	35781	BTBS404	Graduation Project	AC	(3,0,0)	3	6	BTBS403
8	35782	AE-04	Area Elective - IV	AE	(3,0,0)	3	6	
8	35783	AE-05	Area Elective - V	AE	(3,0,0)	3	6	
8	35784	AE-06	Area Elective - VI	AE	(3,0,0)	3	6	
8	35785	UE-03	University Elective - III	UE	(3,0,0)	3	4	

AC = Area Core AE = Area Elective UC = University Core UE = University Elective
Le = Lecture Hours La = Lab Hours T = Tutorial Hours

According to SAR, the Master’s programmes Information Technology shall achieve the following objectives and learning outcomes (intended qualifications profile):

“Each graduate of the degree programme will

- Summarize major themes and a current research problem in their area of specialization
- Identify areas where ethical issues may arise in their work or discipline
- Act as expert and developer in their fields of specialty during the working life
- Understand the foundations of the chosen minor subject
- Have good skills in communications and proficiency in a language
- Recommend appropriate information technology solutions based on organizational needs and an evaluation of alternatives
- Demonstrate the ability to participate effectively in the planning and execution of team-based projects
- Identify and discuss professional, individual, organizational, societal, and regulatory implications of information systems and technology
- Select technologies, policies, and procedures to assure the confidentiality, integrity, and availability of information and IT systems”

The following curriculum is presented:

0 Appendix: Programme Learning Outcomes and Curricula

Table 1.7: Information Technology Master's Programme (with thesis) Curriculum

21 Credits 120 ECTS						
Course Code	Ref. Code	Course Name	Credit	ECTS	Category	Prerequisites
ITEC500	3V5R0	Master Thesis	(0,0,0) 0	60	AC	-
ITEC598	3V5R5	Seminar	(0,0,0) 0	4	AC	-
REQ1	3V5R1	Area Elective I	(3,0,0) 3	8	AE	-
REQ2	3V5R2	Area Elective II	(3,0,0) 3	8	AE	-
REQ3	3V5R3	Area Elective III	(3,0,0) 3	8	AE	-
REQ4	3V5R4	Area Elective IV	(3,0,0) 3	8	AE	-
REQ5	3V5R5	Area Elective V	(3,0,0) 3	8	AE	-
REQ6	3V5R6	Area Elective VI	(3,0,0) 3	8	AE	-
REQ7	3V5R7	Area Elective VII	(3,0,0) 3	8	AE	-

AC = Area Core AE = Area Elective

Table 1.8: Information Technology Master's Programme (non-thesis) Curriculum

30 Credits 90 ECTS						
Course Code	Ref. Code	Course Name	Credit	ECTS	Category	Prerequisites
ITEC511	3T5T1	IT Project Management	(3,0,0) 3	8	AC	-
ITEC514	3T5T2	Research Methods and Ethics in IT	(3,0,0) 3	8	AC	-
ITEC521	3T5T6	Computer Networking Applications	(3,0,0) 3	8	AC	-
ITEC513	3T5T7	Advanced Software Design and Development	(3,0,0) 3	8	AC	-
REQ1	3T5T3	Area Elective I	(3,0,0) 3	8	AE	-
REQ2	3T5T4	Area Elective II	(3,0,0) 3	8	AE	-
REQ3	3T5T5	Area Elective III	(3,0,0) 3	8	AE	-
REQ4	3T5T8	Area Elective IV	(3,0,0) 3	8	AE	-
REQ5	3T5T9	Area Elective V	(3,0,0) 3	8	AE	-
REQ6	3T5TA	Area Elective VI	(3,0,0) 3	8	AE	-
ITEC599	3T5TP	Term Project (Graduation Project)	(0,0,0) 0	10	AC	-

AC = Area Core AE = Area Elective