ASIIN Seal & European Labels

Accreditation Report

Master's Degree Programme
Information Technology

Provided by
Eastern Mediterranean University, Famagusta, North Cyprus

Version: 30 June 2017

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Master of Technology in Information Technology	Master of Technology in Information Technology	ASIIN, Euro-Inf® Label	n.a	04
Date of the contract: 18.03.2015 **Submission of the final version of the self-assessment report:** 27.05.2015 **Date of the onsite visit:** 25.-28.08.2015 **at:** Famagusta, North Cyprus				
Peer panel: Waseem Baig, Student Girne American University; Prof. Dr. Bettina Harriehausen-Mühlbauer, Hochschule Darmstadt; Prof. Dr. Uwe Kastens, Universität Paderborn; Prof. Dr. Jörg Keller, FernUniversität Hagen; Dipl.-Ing. Manfred Reinhardt, formerly IBM				
Representative of the ASIIN headquarter: Dipl.-Kulturw. Jana Möhren				
Responsible decision-making committee: Accreditation Commission for Degree Programmes				
Criteria used: European Standards and Guidelines as of May 2015				

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

[2] TC 04 – Informatics/Computer Science)

| ASIIN General Criteria, as of 28.03.2014

Subject-Specific Criteria of Technical Committee 04 – Informatics/Computer Science as of 12.09.2011 | |

B Characteristics of the Degree Programme

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Information Technology	Master of Technology (non-thesis)	n.a.	7	Full	n.a.	2 Semesters	60 ECTS (30 EMU credits)	Fall, Spring Fall 2011-2012

For the Master's degree programme the institution has presented the following profile in the self-assessment report:

„The aim of the non-thesis M.Tech. programme 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. The educational objectives of the M.Tech. programme are listed below:

- attain a career in the IT field in order to effectively evaluate, analyse and manage the contexts of technological changes in IT projects
- interact with a high quality education in order to utilize and apply technology for solving complex business challenges
- develop skills for effective verbal and written communication, and effectively use interpersonal skills in order to share knowledge and experience with others
- study a learning environment based on open interaction with experienced staff and a curriculum that follows the latest developments with strong analytical and critical thinking skills as well as practical knowledge compatible with business needs
- write conference or journal papers using the studies in the course projects and master graduation project "

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[3] EQF = The European Qualifications Framework for lifelong learning (April 2008)

C Peer Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, content & implementation

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

Evidence:

- Diploma Supplement

- Website: http://sct.emu.edu.tr/departments/MTech/index.htm

- Discussions during onsite visit

- Objectives Matrix in the self-evaluation report (hereinafter: SER) demonstrating the relation between the educational objectives and the programme learning outcomes

Preliminary assessment and analysis of the peers:

The panel based their analysis of the programme objectives and intended competence profile on the self-evaluation report as well as the discussions with the university. While the wording used in the report was considered to be rather abstract – in a manner that made not quite clear which actual knowledge, skills and competences a student would have acquired by the time of graduation – the discussions showed that the main intention of the university is to enable graduates to immerse easily into the labour market, to analyse an IT problem in an organization and to solve it while keeping data safe in this work. The panel also acknowledged that the programme has not primarily been designed for students who wish to pursue further academic studies, i.e. a PhD degree. This latter is one of the reasons for the programme being a non-thesis Master as further discussed below (criterion 3).

Though the explanations from the university allowed the peers to better understand the intentions of the programme, they were not in a position to fully analyze the compliance of the programme objectives with the exemplary intended learning outcomes as defined by the Subject-Specific Criteria of the ASIIN Technical Committee Informatics/Computer

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

Science. A more concise and less abstract wording of the intended competence profile would be necessary.

For instance, the peers discussed with the university where some of the stated learning outcomes were substantiated in the programme. According to the self-evaluation report, students should be able to summarize major themes and a current research problem in their area of specialization. While the peers learned, and positively, noted, that all modules include a project or assignment which students typically have to work on individually, for example by drafting conference papers or reports based on recent publications, the peers were not convinced that the achievement of the intended competence could be fully guaranteed without a thesis. Particularly since the samples reviewed during the visit did not fully support the achievement of the intended learning outcomes (see further criterion 3). A further example of the abstract way of drafting programme objectives is the statement that students should have good skills in communications and proficiency in a language. The panel understood from the discussions that this statement referred to the English language skills to be achieved as the programme is taught in English. Though the panel found no objection to the latter, the objective would have led to broader expectations. Finally, by way of example, the panel questioned, based on the paper-based review, how students would demonstrate the ability to participate effectively in the planning and execution of team-based projects as none of the module descriptions indicated any team work activities. As mentioned above, it was understood from the discussions that projects and assignments are included in the modules which included team work, for example in the case of advanced networking. Such specifications should be made clear from the written descriptions as they constitute clear benefits of the programme

Nevertheless, based on the documentation, discussions and review of outcomes (exams, project reports, etc.), the peers questioned to which extent the programme and the profile to be acquired would currently meet those expectations with regard to level and depth of the competences to be acquired by students. In particular, when reviewing the programme against the Subject-Specific Criteria, they were not able to confirm the achievement of such competences such as the ability to describe and analyse problems using formal methods, to formulate, structure and formalise problems stemming from a *new and developing field* within their specialisation, the ability to develop and evaluate possible approaches, and select and implement solutions, a comprehensive understanding of applicable techniques and methods and their limits or the ability to make contributions to the *further development* of informatics as a scientific discipline. The panel identified two main reasons for this underachievement. Firstly, the level of competences of the incoming students led to lecturers having to review content which would have normally been taught at Bachelor level for a significant part of the semester. Secondly, the fact that

no thesis but only a graduation project report which did not achieve the same level as a thesis was included in the project caused shortcomings in terms of advanced skills. Both items are further discussed below.

With regard to stakeholder involvement and transparency, the panel commended the university for its Activities. All programme related information is published on the website of the School of Computing and Technology (SCT), the entity within the university responsible for managing the programme. Furthermore, students are provided with hard copies of course outlines (module descriptions) at the beginning of the semester, in addition to the web-based information.

External stakeholders, in particular the labour market, is involved through membership in the Advisory Board which meets at least annually to provide feedback on programmes, and through an employer survey also seeking feedback on students achievements and competences.

Criterion 1.2 Name of the degree programme

Evidence:
- Website: http://sct.emu.edu.tr/departments/MTech/index.htm

Preliminary assessment and analysis of the peers:
The panel considered the name of the programme – information technology – to adequately reflect the intended objectives and curriculum as currently on offer. They also found it to be in line with common international usage. The programme is taught in English.

Criterion 1.3 Curriculum

Evidence:
- Curriculum of the programme on website:
  http://sct.emu.edu.tr/departments/MTech/index.htm
- Course descriptions on website:
  http://sct.emu.edu.tr/departments/MTech/index.htm
- Objectives Matrix in the SER demonstrating the relation between the educational objectives and the programme learning outcomes
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
The curricular content was assessed with regard to its contribution to the programme objectives, also in light of the Subject-Specific Criteria, and the level of education sought.

For example, the panel gained the impression that the curriculum focuses on the area of networking with a number of electives centering around different types of networks. The panel understood that modules reflect the research interest of the teaching staff, they questioned whether the general principles of networks would not automatically be applicable to different types of networks, thus causing a degree of overlap which might not be suitable for a Master level programme.

With regard to the lack of software engineering, the peers understood that the intention of the university was not to form software engineers but to enable students how to programme and to detect and apply adequate solutions. However, the peers considered that students should at least be imparted with the general methodology beyond programming in order for graduates to contribute to the creation of large systems. This would also be in line with the programme objectives stating that graduates should be able to develop. Overall, the panel gained the impression that students were rather encouraged to apply systems which they had already learned than principles as would be expected from a Master programme.

In this context, the panel remarked that the module descriptions did not contain any prerequisites, i.e. indications on the competences students should have upon entering a course. In correspondence to the information that a lot of the semester time was spent on repeating and levelling out different competences from the Bachelor, the definition of such prerequisites could contribute to raising the level of the programme as a whole as students would be made aware of the issues on which they would have to catch up outside of the classroom rather than during classes.

Examples of modules where a noteworthy part of the course was spent on typical Bachelor content include "Principles of Programme Language". The panel understood that the course includes a basic overview of principles, such as kinds and paradigms of programming languages and syntax, which would normally be expected from information technology Bachelor graduates. The university agreed that due to the skills of incoming students, including those from a business background, up to one third of courses may be on Bachelor level. Similarly, the peers considered the course "Text Mining" to be rather theoretical. Again, this was explained by students having different backgrounds in mathematics with some lacking basic level of NLP or any scripting language. Accordingly, students have to acquire theoretical principles before continuing to more advanced topics. In the course "Architecture and hardware" the panel pointed out that the designated content, such as microprocessors, would be normal Bachelor level, an impression supported by the indicated literature referring to beginner-level books. As a conclusion from these examples, the panel concluded that the current practice of catching up on Bachelor level competences must be limited, i.e. by setting more specific entrance requirements

and course prerequisites or by offering deficiency courses outside the regular curriculum, so that more time can be spent on the teaching and learning of information technology *principles*, which in turn should lead to higher level graduation projects (see below, criterion 3).

Criterion 1.4 Admission requirements

Evidence:

- Eastern Mediterranean University Graduate Programs, Registration and Admission By-Law, also available on website:
http://grad.emu.edu.tr/files/docs/document/rules/Graduate%20Programs%20Registration%20and%20Admission.pdf

- Admission requirements on website:
http://ww1.emu.edu.tr/en/programs/information-technology-masters-program-without-thesis/c/1070

- Discussions during onsite visit

Preliminary assessment and analysis of the peers:

The panel analysed the effect of the admission requirements on the programme implementation. They learned that the university currently requires a Bachelor degree from a related field of study, drawn from a list of institutes where such degrees are offered. However, the list includes fields from degrees which are only broadly related, e.g. in the field of management of information systems. While the university confirmed that in case the previous degree is not closely related, the qualification of applicants is individually checked, including competences acquired outside the previous degree, the panel did not find it confirmed that information technology related competences are always required. In consequence, as they also understood from the discussions with staff members and students, at least one third of the semester is spent on topics which would normally be expected as prerequisite competences upon entering a Master level programme in the field. Though bridging courses are in principle allowed, the university seemed hesitant about the extent to which these are required from the students, possibly due to the financial implications as most – as a majority international – students studied on a scholarship basis (provided, as a rule, by their home countries). The panel did, however, learn from students that they would be able to sustain additional courses. Bridging missing competences outside the Master programme – rather than during the first weeks – would contribute to raising the level of teaching and learning.

The panel overall considered the current practice of allowing students with a broad variety of backgrounds into the programme as one of the main causes hampering a Master

level implementation. The peers thus considered it mandatory that key competences in information technology were required from students entering the programme.

In terms of language requirements – as the programme is taught in English – the peers understood that all students have to carry out an efficiency test or provide an official test result from TOEFEL, IELTS or similar. While this practice was considered adequate, it had not been completely transparent from the written and web-based information available.

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

The panel positively acknowledged that the university aligned its programme objectives more with the Subject-Specific Standards for Informatics – to the extent that the latter are now intended to serve as programme educational objectives. The objectives-module-matrix allowed the peers to better understand the logic of the programme in terms of coherence between the intended learning outcomes and the curricular content. The matrix also contains the correlation between the originally stated learning outcomes (see appendix) and the subject-specific criteria. It does, however, not become evident from the revised module descriptions whether all the intended learning outcomes are actually taught and assessed in the modules. For example, while communication skills are attributed to a number of modules in the matrix, this element is not always part of the indicated modules. The panel therefore felt that further enhancement was necessary to this regard.

The peers also noted that the university has defined prerequisites for some of the modules in the form of modules to have been completed before other ones in a number of cases. They considered this to be a step in the right direction. It would have been expected, however, that *content*-related prerequisites would be drafted for most of the modules, i.e. more explicitly stating which knowledge and skills students should have acquired before starting the new module. Furthermore, the panel anticipated that several modules need to be adapted in a manner to fully remove any repetitions from the Bachelor programme but that such a thorough change in the curriculum will need some time. The university should there demonstrate how they have managed to implement it.

In this context, the panel positively noted that an additional course in the field of networks will become part of the Bachelor core curriculum and thus serve to avoiding the repetition of Bachelor level content.

Furthermore, the panel followed the explanations of the university regarding the three modules offered in the field of networks. The planned introduction of a new course "Ad-

vanced Software Engineering" was also positively viewed with the aim of strengthening the Master level within the programme.

The university indicated that the graduation project (module Term Project), as foreseen in lieu of a Master thesis, would be subject to new rules regarding its implementation. The new rules mostly target the preliminary approval of suitable project subjects, the extent of the report and the defence before a jury. The panel considered particularly the new steps regarding the approval of the project as crucial to ensuring a level-adequate implementation. As the new rules have – naturally – not yet been implemented and tested, the panel found it necessary to ensure themselves of the achievement of reports following these new rules. The members therefore asked to see the first few reports written following this model in order to assess how the expected Master level would be achieved.

Another means of enhancing the programme shall be the introduction of mandatory bridging courses for those applicants who do not have a preliminary degree in the field of information technology or a related area. Together with the introduction of prerequisite modules for some courses, the panel viewed this positively in order to decrease the large amount of time spent on repeating Bachelor level content. Nevertheless, the panel felt that these changes, in line with the planned tightening up of entry requirements should be implemented to demonstrate full compliance with the Master level competences.

The procedure in place to ensure sufficient English competences of students was considered by the panel to be fully adequate.

Overall, the panel considered that room for improvement existed with regard to the above-mentioned aspects of criterion 1.

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Course descriptions on website:
  http://sct.emu.edu.tr/departments/MTech/index.htm

- Objectives Matrix in the SER demonstrating the relation between the educational objectives and the programme learning outcomes

- Eastern Mediterranean University By-Law for Postgraduate Studies and Examination, also available on the website:

- Statistical data about number of students per semester for the past 4 years
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:

The panel considered the structure of the programme to be sensible and the modules (courses) on offer to constitute adequate teaching and learning entities. A number of elective modules (area electives) complement the mandatory ones. These are offered on a yearly basis with the consequence that a student who has failed an elective cannot take it again in the next semester. However, the panel acquiesced with the argumentation of the university that this did not cause any problems in the implementation, not least due to the close guidance of students. The issue of the lack of make-up exams is further discussed below (criterion 3).

During the discussions, the panel also acknowledged the system of updating the elective modules. While this did not mean that they are constantly changed, as had been suspected, electives are updated from time to time to include new topics. For example, a module ITEC572 Open Source Web Applications had been added as elective recently. The panel also understood that the official minimum number of students for an elective is 10 but that in some cases they are also offered when fewer students register.

Rules for the recognition of achievements acquired outside the university are stipulated on a general basis in the By-Law for Education, Examinations and Success, in particular in Regulations for Exemptions and Equivalency and the By-Law for Taking Courses from Another Institution. Both stipulate that students can be exempt from courses when they have achieved them elsewhere while not required a complete conformity with the course as offered by EMU. However, the panel acknowledged that international exchange and mobility were not at the forefront of the programme under review as the great majority of students came from outside the country. Nevertheless, in principle the university encouraged international exchange and mobility.

Criterion 2.2 Work load and credits

Evidence:

- Module descriptions (course policy sheets) in the SER.
- Information about EMU credits and ECTS on website: http://sct.emu.edu.tr/departments/MTech/index.htm
- Statistical data about number of students per semester for the past 4 years

- Discussions during onsite visit

- Results from student surveys

- Statistics on student progression, drop-out and progression rates and grades

Preliminary assessment and analysis of the peers:

The university works with its own credit point system, so-called EMU credits. Additionally, ECTS credit points are provided as reference. While EMU credits are mostly contact-hour based, no direct correlation between the two systems exist. According to the self-evaluation report and the discussions, the workload of students is spread over 16-18 weeks per semester during which teaching, mid-term and final exams take place. The period between the spring and the fall semester is generally left free for summer school activities (typically for allowing students to follow courses in subject areas causing problems) and holidays. As a consequence the workload as indicated by the ECTS with 30h per ECTS would lead to students having to work between 50 and 56 hours during those weeks. If this reflected the reality or the intention of the university, the panel would consider such a workload to be comparatively high and questioned whether it might lead to overwork of students when the full year was not made use of. However, in the frame of the student surveys at the end of each semester student workload is considered and the university stated that measures would be implemented in case a too high workload was discovered, e.g. by reducing the number of assignments. Additionally, the progression and completion rates of the programme did not indicate any significant deviations from the expected times. Nevertheless, the panel was not fully convinced that the actual workload did not have an impact on the level of teaching and workload. They thus considered it helpful to carefully monitor the effect of student workload and, where appropriate, to take further measures. This might become even more important once the level of teaching would be raised by eliminating the repetition of Bachelor level content (see above, criterion 1). They noted to this regard that student workload would typically be spread over the whole year and not only two teaching periods.

Criterion 2.3 Teaching methodology

Evidence:

- Module descriptions (course policy sheets) in the SER

- Results of graduates survey in SER

- Discussion with teaching staff, students and graduates

Preliminary assessment and analysis of the peers:

During the discussions of the onsite visit, the panel established that the teaching methodology in use was much more interactive and varied than had been apparent from the

self-evaluation report. In particular, the panel comprehended that a term project was included in all modules – in addition to the so-called graduation project constituting the final course of the programme. They welcomed that these projects, though small scale, were intended to foster the orientation of students to the international research community. In this context, the lecturers also convincingly demonstrated that they involve students in their own research activities. The panel considered this type of activity encouraging for students to work on a set task and topic independently or in groups to be suitable towards the achievement of Master level competences. Furthermore, they understood that courses are not only implemented as lectures but often in the form of seminars or including discussion rounds. The panel indicated that the actual details of the teaching methods should be documented in the module descriptions.

Criterion 2.4 Support and assistance

Evidence:
- Self-evaluation report
- Results of graduates survey in SER
- Discussion with teaching staff, students and graduates

Preliminary assessment and analysis of the peers:
The relation between lecturers and students was considered to be one of the strong points of the programme. The panel recognized that lecturers were found to be always accessible and helpful for students, also outside of the designated weekly opening hours. All lecturers were engaged and motivated to ensure a good implementation of the programme.

With regard to providing information and help to the students, all course descriptions and schedules were made available on the School's website as well as in hard copies in the department. Furthermore, lecturers also function as advisors who advise and approve students' choices of electives thus ensuring a meaningful composition of individual course schedules.

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

The panel took into account the clarification of the university regarding the distribution of workload throughout the teaching and exam period and the related student workload. They understood that workload not only occurs during teaching weeks but also during exam periods. Nevertheless, the panel considered it helpful for the university to continue checking the student workload, not least in light of the expected increase in level.

It was positively noted that the information about the teaching methods, in particular the inclusion of (team) projects in all courses was made more explicit in the module descriptions.

The panel overall considered this criterion to be fulfilled.

3. Exams: System, concept and organisation

Criterion 3 Exams: System, concept and organisation

Evidence:
- Module descriptions (course policy sheets) in the SER.
- Eastern Mediterranean University By-Law for Postgraduate Studies and Examination, also available on the website:
  http://grad.emu.edu.tr/files/docs/document/rules/Postgraduate%20Studies%20and%20Examinations.doc
- Exam schedule on website: http://sct.emu.edu.tr/departments/MTech/index.htm
- Discussions and review of documentation during onsite visit

Preliminary assessment and analysis of the peers:
The achievement of learning outcomes in the programme modules is ascertained by mid-term and final exams as well as additional quizzes and assignments. While the majority of exams is written, students' performance in presentations or group tasks also contributes to the module grades. The panel principally valued that more exam types than had been evident from the course descriptions were in use. However, they did not consider them to be fully aligned to the respective learning outcomes of the courses. The descriptions should also be updated. In this context, the panel noted that the grading and composition of module grades was transparent and considered adequate.

With regard to the exam organisation, the panel discussed with lecturers and students whether the two-week periods for the mid-term and directly after the end of the teaching phase would allow for sufficient preparation, not least because they learned that no re-sits or make-up exams (except for medical reasons) were offered. While the panel positively acknowledged that lecturers were flexible to arranging the exam days to avoid overlap, the panel was not convinced that missing make-up exams would not cause delays in the student progression. In case a student failed an exam, the whole course would have to be taken again, though not necessarily offered in the next semester.

The panel intensively discussed with the university the designation of the programme as non-Thesis programme. In fact, the peers understood and went along with the concept of the programme as aiming first and foremost at the integration into the labour market rather than the perusal of higher (PhD-level) education. In lieu of a thesis, a so-called Term Project (or graduation project) is included at the end of the second semester. Compared to programmes offered by the university including a thesis, the term project is to be implemented during a shorter time and is not subject to approval by the university's Institute of Graduate Studies and Research. Staff and students considered the level of the graduation project to be variable, both considering some projects to be on thesis level, particularly when including an extensive literature review and leading to publication. In fact, the panel learned that due to a significant request from students, the School has already applied with the university management to offer a thesis programme in addition to the current one. The review of the samples provided did not, however, convince the panel that the current graduation project would be comparable to what is expected from a Master level thesis – independently of its denomination – in terms of the problem-solving and research skills at the forefront of the discipline linked to it. They attributed this in part to the fact that not all of the preceding teaching was at Master level as explained above (criterion 1). In order for the programme to reach the expected outcomes, the School would have to structurally define the expected outcomes of the graduation project on the adequate level, i.e. level 7 of the European Qualifications Framework, while fully acknowledging the existence of helpful elements such as a plagiarism test and the requirement of a jury defense. Whether or not the Institute of Graduate Studies would be involved in the implementation of the upgraded graduation project would not be of primary importance for the panel, as long as the element of adequate independent research work was strengthened.

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

The revised module descriptions include more detailed information about the assessment types. This will, in the opinion of the panel, improve the transparency of the programme. As to the assessment types, the panel still considered that a greater variety might be enhance the assessment of achieved learning outcomes.

The question of re-sit exams was not resolved in the opinion of the peers as the feedback from the university confirmed their impression, namely that such re-sits were offered only in case of failed exams. In contrast to the university, the panel did not see the necessity to force students to repeat the full module in case of a failed (final) exam. Particularly

since exams have the purpose of verifying whether students have acquired the desired competences, they should have to opportunity to re-sit exams in all cases.

The issue of the final project was already analysed above (criterion 1).

Apart from the mentioned topics, the panel considered the criterion to be fulfilled.

4. Resources

Criterion 4.1 Staff

Evidence:

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

Preliminary assessment and analysis of the peers:

As indicated previously in this report (criterion 2.4), the relation between lecturers and students was considered to be one of the strong points of the programme. Furthermore, the peers considered that the staff composition was suitable to carry out the programme as planned. In addition to the lecturers, three technical staff members were available for the maintenance of the computer laboratories. Each programme has a designated coordinator whose responsibilities include the organisation of programme relevant committees, dealing with transfers, quality or summer school as well as the coordination of timetables and exams. In particular, the English competences of lecturers were suitable to implement the programme fully in English. The peers also acknowledged that staff members, despite a comparatively high teaching load of about 12-16 hours for a full-time lecturer/ass. professor, endeavoured to implement research activities and to involve students in their research. The latter could be fostered as a means of facilitating staff research, specifically in case the graduation project would be boosted as discussed above. While the peers acknowledged that staff members found it hard to balance their teaching and administrative obligations with time for research, they considered the high level of engagement and motivation to positively influence the programme. In this context, the peers discussed with the university the fact that many of the current teaching staff members have obtained their education from the university itself. They understood that the university has taken means to broaden its staff composition by including rules in their hiring policies that would favour external applicants. However, as all staff members also have to teach in undergraduate programmes, they have to be able to teach not only in English but also in Turkish language.

Criterion 4.2 Staff development

Evidence:
- Self-evaluation report
- Discussions with management and lecturers during onsite visit

Preliminary assessment and analysis of the peers:

The panel discussed the development offers for the staff members. They understood that a point-based system is in place for the promotion of staff, collecting points for example for the publication in journals indexed by ISI, Scopus or similar. It was also confirmed that financial support was provided for attending conferences internationally and that, in principle, the opportunity for a sabbatical semester was provided. Nevertheless, of the staff members involved in the programme under review, no one had been able to make use of this opportunity. As indicated elsewhere, the panel pointed out the opportunities for involving students in staff members' research project as a suitable means for developing and facilitating their research. Overall, the panel considered the development opportunities to be well implemented and adequate.

Criterion 4.3 Funds and equipment

Evidence:
- Self-evaluation report
- Information about computer center on website: http://ww1.emu.edu.tr/en/services/computer-center/c/720
- Information about library on website: http://library.emu.edu.tr/
- Overview of cooperation agreements in SER
- Visit of facilities and discussions during onsite visit

Preliminary assessment and analysis of the peers:

The budget of the university stems from both student fees and state funds, the latter form North Cyprus as well as Turkey. Distribution among the faculties, departments and schools is made by the university administration (rector, executive board) based on the respective needs. The peers convinced themselves that the funding for the programme under review was adequate. The resources for teaching and learning, in particular classrooms, computer rooms, laboratories and library were considered to be sufficiently well maintained. In particular, the panel commended that students had access to the hard and software in the labs around the clock when requested. They also confirmed that access to the necessary software resources and library access was possible also from their private computers.

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:

- Module descriptions (course policy sheets) in the SER.

- Course descriptions on website:
  http://sct.emu.edu.tr/departments/MTech/index.htm

Preliminary assessment and analysis of the peers:

In addition to the remarks made above (re workload distribution, exams) (improvements with regard to prerequisites, teaching methods), the panel indicated that the literature information was not complete in all module descriptions. This should be rectified. Nevertheless, the panel considered the module descriptions to be generally very informative and complete. It was positively noted that they were distributed to students as hard copies at the beginning of each semester and outlined by the teaching staff in an oral manner.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Sample of leaving certificate

- Sample of Transcript of Records

- Sample of Bachelor programme Diploma Supplement

Preliminary assessment and analysis of the peers:

At the time of the onsite visit, the Diploma Supplement for the Master programme had not been issued. However, the peers understood that this would be provided by the university administration starting from the upcoming semester and would then be handed out to students upon request. The panel asked that a sample was submitted to them. They also pointed out that the Diploma Supplement should be given automatically to all students as a mobility tool complementing the leaving certificate and Transcript of Records.

Criterion 5.3 Relevant rules

Evidence:

- Rules and Regulations on website: http://mevzuat.emu.edu.tr/Content-en.htm

Preliminary assessment and analysis of the peers:

The panel acknowledged that all rules and regulations governing the student life cycle, i.e. admission, progression and graduation were transparently published on the university website. The remarks made with regard to the content of some regulations made else-where in this report (criterion 1.4, 3) did not contravene their analysis of the transparency of current regulations.

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

The model of the Diploma Supplement provided was considered adequate by the panel. It was noted, however, that the access requirements (item 3.3) seemed to be falsely tran-scribed from a Bachelor programme and should be corrected. The panel also understood that – by decision of the Senate – a Diploma Supplement would from now on be provided to all graduates. This will contribute to the mobility of graduates.

Overall, the panel considered the criterion to be fulfilled.

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- Self-evaluation Report
- Results of graduates, alumni and employer survey in SER
- Sample questionnaires in SER
- Discussions during onsite visit
- Quality Management Handbook
- Regulations for Academic Assessment and Quality Improvement

Preliminary assessment and analysis of the peers:

The quality assurance activities are led and implemented by the Quality Management Committee at School level. It reports to the university level University Board for Quality

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

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

The additional surveys, i.e. those of graduates and employers, have not yet been started so that no results have been yielded. However, the panel concluded that those responsible for managing the programme were generally aware of stakeholders' opinions. The panel gained the opinion that the newly planned survey, focussing more on the actual achievement of intended learning outcomes would contribute to the further development and effectiveness of the quality management system Information from statistical data was also drawn upon for decision making. For example, the programme management was aware of the number of drop-outs and the reasons for this, namely students wishing to complete a programme with a thesis allowing them to pursue their further studies.

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

The peers positively acknowledged that the School of Computing and Technology plans to implement their suggestion regarding the feedback of student survey results to the survey. The members acknowledge that the School currently depends on the central administration's rules about the timing of the surveys at the end of the semester. Should the request for changing that date not be accepted by the university administration, other

means would have to be found to ensure closing the feedback loops. While students would not necessarily be present with the same lecturer in a following semester, oral feedback mechanisms, focus groups or similar could be considered, for example. Furthermore, the peers also considered that students might be included in the Quality Management Committee, not least to be in line with European Standards and Guidelines for Quality Assurance in Higher Education. Nevertheless, the panel much valued the School's positive reaction to their recommendations and considered the criterion to be generally fulfilled.

D Additional Documents

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

D 1. Sample of Diploma Supplement for the Master

D 2. Objectives-Matrix aligning the programme with the Subject-Specific Criteria of ASIIN Technical Committee Informatics

E Comment of the Higher Education Institution (27.10.2015)

The following quotes the comment of the institution:

Re Criterion 1.1

As it is mentioned above, Master of Technology programme aims to enable graduates to immerse easily into the labour market, to analyse an IT problem in an organization and to solve it while keeping data safe in this work but has not primarily been designed for students who wish to pursue further academic studies, i.e. a PhD degree.

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. The educational objectives of the Master of Technology programme are rewritten according to the Subject Specific Criteria of the ASIIN Technical Committee Informatics/Computer Science and listed below.

Formal, Algorithmic, Mathematic Competences
Graduates:

- have a profound knowledge of the principles of informatics
- have developed awareness of the latest findings in informatics and are able to define and analyze problems using formal methods

Analysis, Design and Implementation Competences
Graduates:

- are capable of solving problems which are unusual, complex, incompletely defined or have more than one possible specification
- are able to formulate problems, develop and implement solutions

Technological Competences
Graduates:

- have developed a comprehensive understanding of applicable techniques with their limitations

- have obtained contemporary technical knowledge in a chosen field of informatics to evaluate, analyse and manage the contexts of technological changes in IT projects

Methodological Competences
Graduates:

- are capable of using their knowledge to apply innovative methods for solving IT problems and to implement information models and systems
- can make contributions to the further development of informatics as a scientific discipline

Project Management Competence
Graduates:

- are able to evaluate ideas, methods, procedures, techniques and technologies from different points of view
- have developed skills for effective verbal and written communication and use interpersonal skills in order to share knowledge and experience with others

Module outlines are updated according to the preliminary feedbacks of the ASIIN team during the on-site evaluation process (See Appendix D3). Details about the teaching methodology, used literature, exam types and term project instructions are clearly stated.

Module outlines are updated according to the preliminary feedbacks of the ASIIN team during the on-site evaluation process (See Appendix D3). In order to exclude the bachelor level content from the modules, prerequisites are defined for some courses and shown in the corresponding course outlines. Modified curriculum of the Master of Technology programme is shown in Appendix D4, with the prerequisites. The aim is to equip the students with the knowledge required for the master level courses and be able to exclude the bachelor level content from the modules.

The rules for the admission requirements are also revised by the departmental coordinators, according to the feedbacks of the ASIIN visiting team. Some deficiency/bridging courses will be given to those candidates coming from a different undergraduate discipline. The aim is to exclude the bachelor level content from the modules by ensuring the level of the students registered to the programme. More detailed information about the deficiency/bridging courses are given in criterion 1.3.

In order to increase the graduation project academic level, some rules are defined by the administration of the Master of Technology programme after the preliminary feedbacks of the ASIIN team during the on-site evaluation process. These rules are as shown below:

1. Students have to fill the master project study agreement form (See Appendix D5) with a supervisor in order to register to ITEC599 (master graduation project). This form is used to represent the agreement between the supervisor and student to work on master graduation project together.
2. Students have to fill the project proposal form (See Appendix D6) and get the approval from the supervisor. Then, this form will be sent for the approval of the graduation committee which consists of all the instructors in the Master of Technology programme. Once the proposal is approved by the graduation committee, the student can start studying on the project.
3. Students have to prepare a written report to be submitted to the jury members. The average length of the report is 60-80 pages with the provided format (See Appendix D7) and should not exceed 100 pages, excluding the appendix section. The report should pass through Turnitin plagiarism test and total result must be less than 20% where each reference cannot exceed 5%.
4. The defense will be done against 3 jury members consists of Master of Technology academic staff. Jury members fill the jury report for the term project defense form (See Appendix D8) after the presentation and discussion session is finished. One of the three decisions can be taken by the jury:

- Project is approved and the student successfully finishes the graduation project.
- Project is approved upon alteration and the student has to resubmit the project to the jury members with the required alterations within not more than 2 weeks, otherwise it will be rejected.
- Project is rejected and the student fails to succeed the graduation project.

Re Criterion 1.3

There are 3 network courses offered in the Master of Technology programme: ITEC521 (Computer Networking Applications) is area core, ITEC578 (Mobile Ad Hoc Networks) and ITEC579 (Wireless Networking) are area elective courses.

ITEC579 covers the topics related with wireless networks only. Ad-hoc networks as a topic is a small chapter which aims to raise awareness that there exist such networks.

ITEC578 discusses what Ad-hoc networks are as a chapter and after that the protocols of each layer with their design issues and recent developments only.

ITEC521 discusses the topics related with wired networks only. The course content for ITEC521 is also going to be changed for the next semester where the mentioned repetitions are going to be removed.

For all these three courses mentioned above, starting from the next semester , ITEC309-Computer Networks I in the undergraduate IT programme is going to be the prerequisite which means that the teachers are not going to review the topics that are also currently common.

The curriculum of the Master of Technology programme is considered for modifications according to the feedbacks of the ASIIN visiting team, by the departmental coordinators. Instead of ITEC512 (Principles of Programming Languages) course, which was found mainly at the bachelor level during the ASIIN on-site visit, "Advanced Software Engineering" course is planned to be offered as an area core within the Master of Technology programme. Since this course is not defined yet, a "New Graduate Course Proposal Form" (See Appendix D9) was filled and sent to the rector's office for approvals. Once the required approvals are taken, the curriculum of the Master of Technology programme will be modified and ITEC512 will be replaced by the new "Advanced Software Engineering" course. The new curriculum will be applied starting from 2015-16 Spring semester.

In order to exclude the bachelor level content from the modules, prerequisites (as deficiency courses) are defined for some of the courses according to the feedbacks of the ASIIN visiting team. Modified curriculum of the Master of Technology programme is shown in Appendix D4, with the prerequisites. The aim is to equip the students with the knowledge required for the master level courses and be able to exclude the bachelor level content from the modules.

On the other hand, the rules for the admission requirements are revised by the departmental coordinators, according to the feedbacks of the ASIIN visiting team. Consequently, general admission requirements are expected from the applicants holding a bachelor's degree from an accredited institution in Information Technology, Computer Science, Computer Engineering, or a related area. Other candidates are required to complete at least 3 deficiency/bridging courses in addition to the Master of Technology degree requirements. These course are ITEC114 (Structured Programming), ITEC212 (Database Management Systems) and ITEC229 (Client-Side Internet and Web Programming). The number of deficiency/bridging courses can be increased depending on the undergraduate discipline of the candidate, by the Information Technology Graduate Committee. Additionally, as it is mentioned above, prerequisites are also defined for some of the courses which means that a student may be required to register to more undergraduate course(s) if he/she comes from a different discipline. Those who do not satisfy the admission condi-

tions will be required to attend to the interview which will be held by the Information Technology Graduate Committee. In this case, the admission of the student will be decided after an interview. If the admission is accepted, the number of deficiency courses will be decided accordingly.

Re Criterion 1.4

As it is mentioned before (criterion 1.3), in order to exclude the bachelor level content from the modules, prerequisites are defined for some of the courses according to the feedbacks of the ASIIN visiting team.

On the other hand, the rules for the admission requirements are revised by the departmental coordinators, according to the feedbacks of the ASIIN visiting team. Consequently, general admission requirements are expected from the applicants holding a bachelor's degree from an accredited institution in Information Technology, Computer Science, Computer Engineering, or a related area. Other candidates are required to complete at least 3 deficiency/bridging courses in addition to the Master of Technology degree requirements. The number of deficiency/bridging courses can be increased depending on the undergraduate discipline of the candidate, by the Information Technology Graduate Committee.

Candidates who have been admitted into the Master of Technology programme should obtain the minimum score specified by the Institute Council from internationally recognized proficiency exams such as TOEFL or IELTS or submit a document with a score from an equivalent English language test. A valid document submitted during the date of application is also considered valid during the date of registration to the program. Validity of any English language test document is assessed by the Foreign Languages and English Preparatory School.

Applicants who do not possess documents to be exempted from the English Preparatory program take the English Proficiency Test administered by Foreign Languages and English Preparatory School. Those who obtain the minimum grade (or above) specified by the Institute Council are eligible to start their postgraduate studies.

Applicants not meeting the English proficiency requirements can be admitted to postgraduate programs on the condition that they sit for the English Proficiency Test administered by the Foreign Languages and English Preparatory School and register for the English Support Program corresponding with their level of English.

Candidates who have graduated from an EMU English medium postgraduate program and who apply for another English medium postgraduate or doctoral degree program are ex-

empted from the English Proficiency Exam requirement on the condition that they apply within two years after their graduation.

No English language test requirement is sought for applicants who have been re-admitted to postgraduate programs, on the condition that they were registered to a postgraduate program in Eastern Mediterranean University within the last two years from their application date to the program and that they submit a document certifying that they possess the minimum score specified for the semester of application to the postgraduate program of readmission.

No English language test requirement is sought for applicants who are citizens of countries whose official language is English and, at the same time, who obtained their undergraduate or postgraduate degrees from an English-medium institution of higher education.

No English language test requirement is sought for applicants who are citizens of countries whose official language is not English but who obtained their undergraduate or postgraduate degrees from an English-medium institution of higher education in a country whose official language is English, on the condition that they apply within two years following their graduation.

More detailed information can be found on http://grad.emu.edu.tr under the "Regulations" link.

Re Criterion 2.2

Master of Technology programme has a 1-year curriculum where totally 60 ECTS are assigned. This means each semester has 30 ECTS credit on average. Each ECTS has a workload of 30 hours on average which means 30x30=900 hours workload is assigned to the students each semester. Although there are about 14 weeks for the lectures in each semester, this does not mean that a semester consists only 14 weeks. Two weeks are assigned for the midterm examinations, two weeks are assigned for the final examinations, one week is assigned for the make-up examinations and two weeks are assigned for the re-sit examinations. Totally 14+2+2+1+2=21 weeks are assigned to each semester on the defined academic calendar. If the workload of each semester is divided by the number of weeks we obtain $900/21 \cong 43$ hours workload for each student per week.

On the other hand, for the master graduation projects, the students have the chance to work until the "last day of course add/drop" period of the next following semester. In this case, the student is assigned PP (project progressing) letter grade, and when the project is finished satisfactorily, it is changed to PS (Project satisfactory) letter grade. If the student

fails to complete the work assigned on time, he/she has to register the master graduation project again in the next following semester.

Re Criterion 2.3

Module outlines are updated according to the preliminary feedbacks of the ASIIN team during the on-site visit (See Appendix D3). Details about the teaching methodology, used literature, exam types and term project instructions are clearly stated.

Re Criterion 3

Module outlines are updated according to the preliminary feedbacks of the ASIIN team during the on-site visit (See Appendix D 3). Details about the teaching methodology, used literature, exam types and term project instructions are clearly stated. In order to exclude the bachelor level content from the modules, prerequisites were also defined for some courses and shown in the corresponding course outlines.

The students are allowed to take one make-up exam for each course if they provide a medical report or a valid excuse for the missed examination. Make-up exams are held at the end of the semester, after the final exam period.

On the other hand, if a student fails from a course, the course should be repeated since no re-sit exams are provided at the graduate level. If a student fails from an area elective course, he/she can register to another area elective course in the next semester.

If a student fails from an area core course, and if the student has only one semester to graduate, since the courses are not offered every semester, the area core course(s) can be offered in the following semester.

As it is mentioned before (criterion 1.1), in order to increase the graduation project level, some rules are defined by the administration of the Master of Technology programme after the review of ASIIN visiting team. These rules are as shown below:

1. Students have to fill the master project study agreement form (See Appendix D5) with a supervisor in order to register to ITEC599 (master graduation project). This form is used to represent the agreement between the supervisor and student to work on master graduation project together.

2. Students have to fill the project proposal form (See Appendix D6) and get the approval from the supervisor. Then, this form will be sent for the approval of the graduation committee which consists of all the instructors in the Master of Technology programme. Once the proposal is approved by the graduation committee, the student can start studying on the project.

3. Students have to prepare a written report to be submitted to the jury members. The average length of the report is 60-80 pages with the provided format (See Appendix D7) and should not exceed 100 pages. The report should pass through Turnitin plagiarism test and total result must be less than 20% where each reference cannot exceed 5%.

4. The defense will be done against 3 jury members consists of Master of Technology academic staff. Jury members fill the jury report for the term project defense form (See Appendix D8) after the presentation and discussion session is finished. One of the three decisions can be taken by the jury members:

   • Project is approved and the student successfully finishes the graduation project
   • Project is approved upon alteration and the student has to resubmit the project to the jury members with the required alterations within not more than 2 weeks, otherwise it will be rejected.
   • Project is rejected and the student fails to succeed the graduation project.

Re Criterion 4.1

The teaching loads are decided by the University Board.

Re Criterion 5.1

Module outlines are updated according to the feedbacks of the ASIIN visiting team (See Appendix D3). Details about the teaching methodology, used literature, exam types and term project instructions are clearly stated.

Re Criterion 5.2

The following decision has ben taken in the senate of the university (See Appendix D10):

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

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

Re Criterion 5.3

The applied rules and regulations governing the student life cycle are the rules and regulations announced on the web of the university (http://mevzuat.emu.edu.tr/Content-en.htm).

Re Criterion 6

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

The institution provided the following additional documents:

- Sample of Diploma Supplement for the Master
- Objectives-Matrix aligning the programme with the Subject-Specific Criteria of ASIIN Technical Committee Informatics
- Updated module outlines
- Modified curriculum
- Master project study agreement form
- Master project proposal form
- Sample of Report Style and Format
- Jury report form
- Graduate course proposal form
- Senate decision

F Summary: Peer recommendations (06.11.2015)

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

Degree Pro-gramme	ASIIN seal	Subject-specific Label	Maximum duration of accreditation
Master of Infor-mation Technology	Suspension	suspension	

Conditions for the continuation of the procedure

V 1. (ASIIN 1.4) The new entry requirements and prerequisites (in terms of competenc-es) must be formally implemented in order ensure that students can achieve the programme learning outcomes at Master level. The bridging of missing competenc-es within the modules must be limited so as not to affect the teaching at Master level (deficiency classes).

V 2. (ASIIN 1.1) It must be demonstrated how the programme meets all the intended learning outcomes stipulated by the Subject-Specific Criteria of the ASIIN Technical Committee Informatics/Computer Science.

V 3. (ASIIN 1.1, 3) It must be demonstrated that the graduation project is consistently completed at Master level.

Possible requirements

A 1. (ASIIN 1.1) The programme objectives should be drafted in a less abstract way so that the intended competence profile of graduates is clear and concise.

A 2. (ASIIN 1.3, 2.3) The module descriptions should be revised in light of the comments made in the report (prerequisites, completeness of literature information)

A 3. (ASIIN 3) Exam types must be adapted to the intended learning outcomes.

A 4. (ASIIN 3) Re-sits (make-up exam) should be offered for all students in a manner that does not cause delays in student progression.

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

Possible Recommendations

E 1. (ASIIN 2.2) It is recommended to continuously and carefully check whether the student workload is adequately distributed during the weeks of lecture and during the whole semester (in particular once the teaching level is raised).

G Comment of the Technical Committee 04 – Informatics (24.11.2015)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discussed the procedure and the report. They understood that the current admission requirements, the module content as currently taught and the level and scope of the graduation project led to the fact that the programme did not yet achieve Master level.

The Technical Committee principally agreed with the conclusions and proposal of the peer panel. The committee members proposed editing condition V3 by aligning it more directly to the wording of ASIIN criterion 3.

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

The Technical Committee deemed that the intended learning outcomes of the degree programme do not yet comply with the Subject-Specific Criteria of the Technical Committee 04 – Informatics at Master level.

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

Degree Programme	ASIIN seal	Subject-specific labels	Maximum duration of accreditation
Master of Information Technology	Suspension	Suspension	

Conditions for the continuation of the procedure

V 1. (ASIIN 1.4) The new entry requirements and prerequisites (in terms of competences) must be formally implemented in order ensure that students can achieve the programme learning outcomes at Master level. The bridging of missing competences within the modules must be limited so as not to affect the teaching at Master level (deficiency classes).

V 2. (ASIIN 1.1) It must be demonstrated how the programme meets all the intended learning outcomes stipulated by the Subject-Specific Criteria of the ASIIN Technical Committee Informatics/Computer Science.

V 3. (ASIIN 1.1, 3) It must be demonstrated that the degree programme comprises a the-sis/dissertation or final project which ensures that students work on a set task in-dependently and at the level aimed for.

Possible requirements

A 1. (ASIIN 1.1) The programme objectives should be drafted in a less abstract way so that the intended competence profile of graduates is clear and concise.

A 2. (ASIIN 1.3, 2.3) The module descriptions should be revised in light of the comments made in the report (prerequisites, completeness of literature information)

A 3. (ASIIN 3) Exam types must be adapted to the intended learning outcomes.

A 4. (ASIIN 3) Re-sits (make-up exam) should be offered for all students in a manner that does not cause delays in student progression.

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

Possible Recommendations

E 1. (ASIIN 2.2) It is recommended to continuously and carefully check whether the stu-dent workload is adequately distributed during the weeks of lecture and during the whole semester (in particular once the teaching level is raised).

H Decision of the Accreditation Commission (11.12.2015)

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

The Accreditation Commission discussed the procedure. The members fully agreed with the analysis and findings of the peer panel. The Commission nevertheless made a couple of editorial amendments to the possible requirements A2 and A5.

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

The Accreditation Commission deemed that the intended learning outcomes of the degree programme do not yet comply with the Subject-Specific Criteria of the Technical Committee 04 - Informatics.

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

Degree Programme	ASIIN seal	Subject-specific labels	Maximum duration of accreditation
Master of Information Technology	Suspension	suspension	

Conditions for the continuation of the procedure

V 1. (ASIIN 1.4) The new entry requirements and prerequisites (in terms of competences) must be formally implemented in order ensure that students can achieve the programme learning outcomes at Master level. The bridging of missing competences within the modules must be limited so as not to affect the teaching at Master level (deficiency classes).

V 2. (ASIIN 1.1) It must be demonstrated how the programme meets all the intended learning outcomes stipulated by the Subject-Specific Criteria of the ASIIN Technical Committee Informatics/Computer Science.

V 3. (ASIIN 1.1, 3) It must be demonstrated that the degree programme comprises a thesis/dissertation or final project which ensures that students work on a set task independently and at the level aimed for.

Possible requirements

A 1.   (ASIIN 1.1) The programme objectives should be drafted in a less abstract way so that the intended competence profile of graduates is clear and concise.

A 2.   (ASIIN 1.3, 2.3) The module descriptions should be revised in light of the comments made in the report (prerequisites, completeness of literature information)

A 3.   (ASIIN 3) Examination types must be adapted to the intended learning outcomes.

A 4.   (ASIIN 3) Re-sits (make-up exam) should be offered for all students in a manner that does not cause delays in student progression.

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

Possible Recommendation

E 1.   (ASIIN 2.2) It is recommended to continuously and carefully check whether the student workload is adequately distributed during the weeks of lecture and during the whole semester (in particular once the teaching level is raised).

I Resumption of the Accreditation procedure of the Master programme Information Technology

Comment of the Higher Education Institution (17.02./02.05.2017)

In order to fulfil the prerequisites for the resumption of the Accreditation procedure the HEI presented in February revised programme objectives as well as a revised curriculum integrating advanced Software Design and Development and a new course Research Methods and Ethics in Information Technology. Further, the admission requirements have been emphasized and presented to the peers. Last of all, the HEI handed in the new rules for the Research Project in order to document the increased research component.

After the peers had demanded for additional information concerning some aspects in May the HEI presented the peers with the links to the published admission requirements and a matrix outlining the curriculum and the respective learning outcomes:

Fall Semester (15/15 Credits, 26/26 ECTS)							
Sem.	Course Code	Full Course Title	Course Category	Credit			Prerequisites
				(Le/La/T)	EMU	ECTS	
1	ITEC511	IT PROJECT MANAGEMENT	AC	(3,0,0)	3	6	-
1	ITEC514	RESEARCH METHODS AND ETHICS IN IN-FORMATION TECHNOLOGY	AC	(3,0,0)	3	5	-
1	REQ1	REQUIRED COURSE I	AE	(3,0,0)	3	5	-
1	REQ2	REQUIRED COURSE II	AE	(3,0,0)	3	5	-
1	REQ3	REQUIRED COURSE III	AE	(3,0,0)	3	5	-

Spring Semester (15/30 Credits, 34/60 ECTS)							
Sem.	Course Code	Full Course Title	Course Category	Credit			Prerequisites
				(Le/La/T)	EMU	ECTS	
2	ITEC521	COMPUTER NETWORKING APPLICATIONS	AC	(3,0,0)	3	6	-
2	ITEC513	ADVANCED SOFTWARE DESIGN AND DE-VELOPMENT	AC	(3,0,0)	3	6	-
2	REQ4	REQUIRED COURSE IV	AE	(3,0,0)	3	5	-
2	REQ5	REQUIRED COURSE V	AE	(3,0,0)	3	5	-
2	REQ6	REQUIRED COURSE VI	AE	(3,0,0)	3	5	-

2	ITEC599	TERM PROJECT	AC	(0,0,0)	0	7	-

Programme and Modules Learning Objectives Matrix	Programme Learning Outcomes	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 speciality 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
Module Names										
ITEC511 IT Project Management		L	H	H	L	H	-	H	A	-
ITEC513 Advanced Software Design and Development		A	L	A	-	-	H	H	L	-
ITEC514 Research Methods and Ethics in IT		H	A	H	L	A	-	-	-	L
ITEC521 Computer Networking Applications		L	-	-	H	-	H	A	A	H
ITEC599 Term Project		H	A	H	H	A	L	-	A	H

Assessment of the peers (12.05.2017)

Considering the presented information and documents the peers came the conclusion that the revised entry requirements now published on the website together with the HEI's general admission requirements sufficiently fulfil the prerequisite for resumption No. 1. The same is valid for the prerequisite No. 3 referring to which the peers were convinced that rules have been created introducing a thesis/dissertation or final project. More critically assessed was the prerequisite No. 2 resulting in a split vote. While two

peers were of the opinion that the material presented in addition to the module hand-book adequately links the learning outcomes to the Subject-Specific Criteria of the TC 04, the other two peers disagree. In their assessment a more general revision of the learning outcomes in order to match them with the SSC needs to be done in future.

J   Comment of the Technical Committee 04 – Informatics (21.06.2017)

Assessment and analysis for the award of the ASIIN seal:

The TC discussed the procedure and the presented documents following the assessment of the peers regarding precondition 1 and 3. In the case of precondition 2 the members agreed with the two peers who considered the presented documentation as sufficient. Therefore, the TC decided that all preconditions have been met.

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

The Technical Committee judges that the intended learning outcomes of the degree programme comply with the Subject-Specific Criteria of the Technical Committee 04 - Informatics.

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

Degree Programme	ASIIN seal	Subject-specific Label	Maximum duration of accreditation
Ma Information Technology	With requirements for one year	Euro-Inf®	30.09.2022

Decision of the Accreditation Committee (30.06.2017)

Assessment and analysis for the award of the ASIIN seal:

The Accreditation Committee discusses the procedure and agrees with the assessment of the Technical Committee insofar as it considers all three preconditions to be fulfilled. Hence, the procedure will be resumed with the necessary fulfilment of the remaining five requirements within one year.

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

The Technical Committee judges that the intended learning outcomes of the degree programme does comply with the Subject-Specific Criteria of the Technical Committee 04 - Informatics.

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

Degree Pro-gramme	ASIIN seal	Subject-specific Label	Maximum duration of accreditation
Ma Information Technology	With require-ments for one year	Euro-Inf®	30.09.2022

Requirements

A 1. (ASIIN 1.1) The programme objectives should be drafted in a less abstract way so that the intended competence profile of graduates is clear and concise.

A 2. (ASIIN 1.3, 2.3) The module descriptions should be revised in light of the comments made in the report (prerequisites, completeness of literature information)

A 3. (ASIIN 3) Examination types must be adapted to the intended learning outcomes.

A 4. (ASIIN 3) Re-sits (make-up exam) should be offered for all students in a manner that does not cause delays in student progression.

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

Recommendation

E 1. (ASIIN 2.2) It is recommended to continuously and carefully check whether the student workload is adequately distributed during the weeks of lecture and during the whole semester (in particular once the teaching level is raised).

Appendix: Programme Learning Outcomes and Curriculum

According to the self-evaluation report the following **learning outcomes (intended qualifications profile)** shall be achieved by the Master degree programme:

"Each graduate of the 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 speciality 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 – updated version, submitted together with the comment of the HEI:

Fall Semester (15 Credits, 27 ECTS)						
Course Code	Ref. Code	Course Name	Credit (Lec/Lab/Tut)	ECTS	Category	Prerequisite(s)
ITEC511	3T5T1	IT Project Management	(3,0,0) 3	6	AC	-
ITEC512	3T5T2	Principles of Programming Languages	(3,0,0) 3	6	AC	-
REQ1	3T5T3	Elective Course I	(3,0,0) 3	5	AE	-
REQ2	3T5T4	Elective Course II	(3,0,0) 3	5	AE	-
REQ3	3T5T5	Elective Course III	(3,0,0) 3	5	AE	-

Spring Semester (15 Credits, 33 ECTS)						
Course Code	Ref. Code	Course Name	Credit (Lec/Lab/Tut)	ECTS	Category	Prerequisite(s)
ITEC521	3T5T6	Computer Networking Applications	(3,0,0) 3	6	AC	**ITEC309**
REQ4	3T5T7	Elective Course IV	(3,0,0) 3	5	AE	-
REQ5	3T5T8	Elective Course V	(3,0,0) 3	5	AE	-
REQ6	3T5T9	Elective Course VI	(3,0,0) 3	5	AE	-
REQ7	3T5TA	Elective Course VII	(3,0,0) 3	5	AE	-
ITEC599	3T5TP	Term Project	(0,0,0) 0	7	AC	-

AC=Area Core, AE=Area Elective, Lec=Lecture, Lab=Laboratory, Tut=Tutorial

Area Electives		
Course Code	Course Name	Prerequisite(s)
ITEC535	Mobile Programming	**ITEC314**
ITEC542	Information Technology and Instruction	-
ITEC543	Data Backup and Recovery	-
ITEC547	Text Mining	-
ITEC560	Neural Computation	-
ITEC570	Project Based Windows Applications	-
ITEC571	Project Based Internet Applications	-
ITEC572	Open Source Web Applications	-
ITEC578	Mobile Ad Hoc Networks	**ITEC309**
ITEC579	Wireless Networking	**ITEC309**
ITEC580	Projects and Risk Management	-
ITEC582	Architecture and Hardware	**ITEC255**