Doc. 300.1.1

Date: June 22, 2021

External Evaluation Report

(Conventional-face-to-face programme of study)

- **Higher Education Institution:** Cyprus University of Technology
- **Town:** LIMASSOL
- **School/Faculty (if applicable):** Engineering and Technology
- **Department/ Sector:** Electrical Engineering, Computer Engineering and Informatics
- **Programme of study- Name (Duration, ECTS, Cycle)**

  In Greek: Πτυχίο Μηχανικών Ηλεκτρονικών Υπολογιστών και Πληροφορικής

  In English: Bachelor's Degree in Computer Engineering and Informatics (4 academic years, 248 ECTS, BSc)
- **Language(s) of instruction:** Greek
- **Programme's status:** Currently Operating
- **Concentrations (if any):**

The present document has been prepared within the framework of the authority and competencies of the Cyprus Agency of Quality Assurance and Accreditation in Higher Education, according to the provisions of the "Quality Assurance and Accreditation of Higher Education and the Establishment and Operation of an Agency on Related Matters Laws of 2015 to 2019" [N. 136 (I)/2015 to N. 35(I)/2019].

In Greek: Concentrations
In English: Concentrations

A. Introduction

This part includes basic information regarding the onsite visit.

The External Evaluation Committee (EEC) had a preliminary remote meeting on 9.6.2021 to discuss the program evaluation process. On 16.6.2021, the EEC visited the Cyprus University of Technology and met faculty members, staff and students remotely with an online video conferencing tool in order to evaluate the BSc Computer Engineering and Informatics Program. The visit was arranged and facilitated by Natasa Kazakaiou, representing the Agency of Quality Assurance and Accreditation in Higher Education. Before the online visit, the EEC members were provided with relevant program documents and videos to review. A final meeting to aggregate the EEC members' contributions to this report and to agree on its final form was held on 22.6.2021.

The EEC was presented with detailed information about the university, the department and the four-year degree program. During the visit the EEC requested and received additional material including statistics, regulations, policies, and presentations. During the site visit, the EEC met university, school and department leadership peers and met professors, teachers and administrators. It also met current and past students of the program.

Based on the examination and evaluation of the accreditation materials and the remote site visit, the EEC concludes that the required standards are met. The present assessment report describes how the standards are met and provides recommendations and suggestions for improving the program under evaluation.

B. External Evaluation Committee (EEC)

Name	*Position*	*University*
Giuseppe Di Fatta	Professor, Head of Department, Department of Computer Science	University of Reading, United Kingdom
Christina Lioma	Professor , Head of the Machine Learning section, Head of the Information Retrieval Lab	University of Copenhagen, Denmark
Eleni Mangina	Professor , School of Computer Science	University College Dublin, Ireland
Ioannis Zapitis	Electronics and Computer Engineer	ETEK, Cyprus
Michael Michael	Student in Computer Science	Public University of Cyprus

C. Guidelines on content and structure of the report

- *The external evaluation report follows the structure of assessment areas.*
- *At the beginning of each assessment area there is a box presenting:*
  (a) *sub-areas*
  (b) *standards which are relevant to the European Standards and Guidelines (ESG)*
  (c) *some questions that EEC may find useful.*
- *The questions aim at facilitating the understanding of each assessment area and at illustrating the range of topics covered by the standards.*
- *Under each assessment area, it is important to provide information regarding the compliance with the requirements of each sub-area. In particular, the following must be included:*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

- *The EEC should state the compliance for each sub-area (Non-compliant, Partially compliant, Compliant), which must be in agreement with everything stated in the report. It is pointed out that, in the case of standards that cannot be applied due to the status of the HEI and/or of the programme of study, N/A (= Not Applicable) should be noted.*
- *The EEC should state the conclusions and final remarks regarding the programme of study as a whole.*
- ***The report may also address other issues which the EEC finds relevant.***

1. Study programme and study programme's design and development

(ESG 1.1, 1.2, 1.7, 1.8, 1.9)

Sub-areas

1.1 Policy for quality assurance
1.2 Design, approval, on-going monitoring and review
1.3 Public information
1.4 Information management

1.1 Policy for quality assurance

Standards

- *Policy for quality assurance of the programme of study:*
  - *has a formal status and is publicly available*
  - *supports the organisation of the quality assurance system through appropriate structures, regulations and processes*
  - *supports teaching, administrative staff and students to take on their responsibilities in quality assurance*
  - *ensures academic integrity and freedom and is vigilant against academic fraud*
  - *guards against intolerance of any kind or discrimination against the students or staff*
  - *supports the involvement of external stakeholders*

1.2 Design, approval, on-going monitoring and review

Standards

- *The programme of study:*
  - *is designed with overall programme objectives that are in line with the institutional strategy and have explicit intended learning outcomes*
  - *is designed by involving students and other stakeholders*
  - *benefits from external expertise*
  - *reflects the four purposes of higher education of the Council of Europe (preparation for sustainable employment, personal development, preparation for life as active citizens in democratic societies, the development and maintenance, through teaching, learning and research, of a broad, advanced knowledge base)*
  - *is designed so that it enables smooth student progression*
  - *is designed so that the exams' and assignments' content corresponds to the level of the programme and the number of ECTS*
  - *defines the expected student workload in ECTS*

- *includes well-structured placement opportunities where appropriate*
- *is subject to a formal institutional approval process*
- *results in a qualification that is clearly specified and communicated, and refers to the correct level of the National Qualifications Framework for Higher Education and, consequently, to the Framework for Qualifications of the European Higher Education Area*
- *is regularly monitored in the light of the latest research in the given discipline, thus ensuring that the programme is up-to-date*
- *is periodically reviewed so that it takes into account the changing needs of society, the students' workload, progression and completion, the effectiveness of procedures for assessment of students, student expectations, needs and satisfaction in relation to the programme*
- *is reviewed and revised regularly involving students and other stakeholders*

1.3 Public information

Standards

- *Regarding the programme of study, clear, accurate, up-to date and readily accessible information is published about:*
  - *selection criteria*
  - *intended learning outcomes*
  - *qualification awarded*
  - *teaching, learning and assessment procedures*
  - *pass rates*
  - *learning opportunities available to the students*
  - *graduate employment information*

1.4 Information management

Standards

- *Information for the effective management of the programme of study is collected, monitored and analysed:*
  - *key performance indicators*
  - *profile of the student population*
  - *student progression, success and drop-out rates*
  - *students' satisfaction with their programmes*
  - *learning resources and student support available*
  - *career paths of graduates*

- *Students and staff are involved in providing and analysing information and planning follow-up activities.*

You may also consider the following questions:

- *What is the procedure for quality assurance of the programme and who is involved?*
- *Who is involved in the study programme's design and development (launching, changing, internal evaluation) and what is taken into account (strategies, the needs of society, etc.)?*
- *How/to what extent are students themselves involved in the development of the content of their studies?*
- *Please evaluate a) whether the study programme remains current and consistent with developments in society (labour market, digital technologies, etc.), and b) whether the content and objectives of the study programme are in accordance with each other?*
- *Do the content and the delivery of the programme correspond to the European Qualifications Framework (EQF)?*
- *How is coherence of the study programme ensured, i.e., logical sequence and coherence of courses? How are substantial overlaps between courses avoided? How is it ensured that the teaching staff is aware of the content and outputs of their colleagues' work within the same study programme?*
- *How does the study programme support development of the learners' general competencies (including digital literacy, foreign language skills, entrepreneurship, communication and teamwork skills)?*
- *What are the scope and objectives of the foundation courses in the study programme (where appropriate)? What are the pass rates?*
- *How long does it take a student on average to graduate? Is the graduation rate for the study programme analogous to other European programmes with similar content? What is the pass rate per course/semester?*
- ***How is it ensured that the actual student workload is in accordance with the workload expressed by ECTS?***
- *What are the opportunities for international students to participate in the study programme (courses/modules taught in a foreign language)?*
- *Is information related to the programme of study publicly available?*
- *How is the HEI evaluating the success of its graduates in the labor market? What is the feedback from graduates of the study programme on their employment and/or continuation of studies?*
- *Have the results of student feedback been analysed and taken into account, and how (e.g., when planning in-service training for the teaching staff)?*
- *What are the reasons for dropping out (voluntary withdrawal)? What has been done to reduce the number of such students?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

The content and the learning outcomes of the Computer Engineering and Informatics (CEI) program of the Cyprus University of Technology are in line with the current standards and expectations in the sector. The Programme complies with appropriate quality assurance policies in place at the University. The program structure and course distribution in semesters are clearly and properly identified with a coherent list of compulsory and elective courses.

The CEI program had 110 students in 2020, and they were supported by 8 Faculty members (5 permanent and 3 transferred staff). The academic staff teaching the courses have the appropriate qualification, consistently with the program. Almost all faculty members hold a doctoral degree in a relevant subject. Their teaching load is consistent with the sector. The courses are taught mostly by permanent staff and only a few non-permanent staff supporting the program.

The CEI program was developed to meet the expectations of the local employment conditions in Cyprus. The program has excellent employability statistics with 100% of the most recent graduates being in employment, above the overall statistics of the Institution, for which indicatively 89% of 2018 graduates have been employed.

The department has been very successful in attracting external research funding and demonstrated strong links to the local market and industry.

The dropout rate for students in the program is 6%, which is quite low compared to other departments.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Overall, the CEI program meets the quality conditions and expectations for a Higher Education Institution in Cyprus and at the European level.

The small class size of this program allows personal interactions between faculty and students, and efficient monitoring of student progress by faculty members. The positive results of this might be reflected in the relatively low dropout rate of students in this program, and the high employment rate of graduates.

The program is well designed and covers most areas of computer science, from fundamental areas to many specialisation fields and, in particular, there is a clear synergy with the EE component of the department. This is very positive and offers the opportunity to develop specialised fields, such as Cybersecurity, IoT, CPS, embedded system, even further to become a unique selling point (USP).

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

Currently there is no specific review process of the program, and a strategic plan of development is not clear or publicly available. Some aspects of the program may benefit from a revision and a more focused strategic plan to

build upon some strong USPs, such as synergy with EE and industry, and the involvement of UG students in research activities.

The role of the compulsory courses on biology and on physics needs to be more strategic in the context of the program. Alternatively, these can be replaced with more specialised CS/EE modules, such as AI/ML, Data Science, Cybersecurity, and IoT, also in consideration of the current expectations of employers.

A module dedicated to the programming language Python should be introduced. This is an important language that students need for several activities during their studies and for their employability after they graduate.

Communicate in a systematic manner relevant statistics (e.g., number of applicants, student drop-out rate, examination pass rates, etc.) to all related faculty and staff in order to facilitate ongoing monitoring and improvement of the CEI program.

Enhance the quality assurance practices by engaging and receiving feedback from international or local industry experts in the related fields, in order to assure that the program is enriched with hot topics in the field. This will also contribute to the attractiveness of the program.

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
1.1	Policy for quality assurance	Compliant
1.2	Design, approval, on-going monitoring and review	Compliant
1.3	Public information	Compliant
1.4	Information management	Compliant

2. Student – centred learning, teaching and assessment *(ESG 1.3)*

Sub-areas

2.1 Process of teaching and learning and student-centred teaching methodology
2.2 Practical training
2.3 Student assessment

2.1 Process of teaching and learning and student-centred teaching methodology

Standards

- *The process of teaching and learning supports students' individual and social development.*
- *The process of teaching and learning is flexible, considers different modes of delivery, where appropriate, uses a variety of pedagogical methods and facilitates the achievement of planned learning outcomes.*
- *Students are encouraged to take an active role in creating the learning process.*
- *The implementation of student-centered learning and teaching encourages a sense of autonomy in the learner, while ensuring adequate guidance and support from the teacher.*
- *Teaching methods, tools and material used in teaching are modern, effective, support the use of modern educational technologies and are regularly updated.*
- *Mutual respect within the learner-teacher relationship is promoted.*
- *The implementation of student-centred learning and teaching respects and attends to the diversity of students and their needs, enabling flexible learning paths.*
- *Appropriate procedures for dealing with students' complaints regarding the process of teaching and learning are set.*

2.2 Practical training

Standards

- *Practical and theoretical studies are interconnected.*
- *The organisation and the content of practical training, if applicable, support achievement of planned learning outcomes and meet the needs of the stakeholders.*

2.3 Student assessment

Standards

- *Assessment is consistent, fairly applied to all students and carried out in accordance with the stated procedures.*

- *Assessment is appropriate, transparent, objective and supports the development of the learner.*
- *The criteria for the method of assessment, as well as criteria for marking, are published in advance.*
- *Assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved. Students are given feedback, which, if necessary, is linked to advice on the learning process.*
- *Assessment, where possible, is carried out by more than one examiner.*
- *A formal procedure for student appeals is in place.*
- *Assessors are familiar with existing testing and examination methods and receive support in developing their own skills in this field.*
- *The regulations for assessment take into account mitigating circumstances.*

You may also consider the following questions:

- *How is it monitored that the teaching staff base their teaching and assessment methods on objectives and intended learning outcomes? Provide samples of examination papers (if available).*
- *How are students' different abilities, learning needs and learning opportunities taken into consideration when conducting educational activities?*
- *How is the development of students' general competencies (including digital skills) supported in educational activities?*
- *How is it ensured that innovative teaching methods, learning environments and learning aids that support learning are diverse and used in educational activities?*
- *Is the teaching staff using new technology in order to make the teaching process more effective?*
- *How is it ensured that theory and practice are interconnected in teaching and learning?*
- *How is practical training organised (finding practical training positions, guidelines for practical training, supervision, reporting, feedback, etc.)? What role does practical training have in achieving the objectives of the study programme? What is student feedback on the content and arrangement of practical training?*
- ***Are students actively involved in research? How is student involvement in research set up?***
- *How is supervision of student research papers (seminar papers, projects, theses, etc.) organised?*
- ***Do students' assessments correspond to the European Qualifications Framework (EQF)?***
- *How are the assessment methods chosen and to what extent do students get supportive feedback on their academic progress during their studies?*
- *How is the objectivity and relevance of student assessment ensured (assessment of the degree of achievement of the intended learning outcomes)?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

The student-centred learning, teaching and assessment is focused on developing to the highest level the ability of students for an independent and inventive approach to modeling, design and implementation of systems (software and hardware), models and algorithms from a wide range of applications in various sectors of economics, society and market.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

The program combines strong theoretical scientific knowledge with excellent training in computer system design, analysis and evaluation. Graduates of the program are registered as members of the Cyprus Scientific Technical Chamber (ETEK) enjoying all professional rights of an Engineer. Assessment is consistent, appropriate, transparent, objective and supports the development of the learner.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

- EDI (Equality, Diversion, Inclusion) Committee to provide support for the students and staff.
- Formal advisory board for the curriculum review every 3-4 years in order to provide feedback and inclusion of industry representatives should be mandatory.
- Rigorous internal reporting in terms of the pipeline year on year of students graduating showing the progression from undergraduate course to postgraduate courses. This reporting should include the students progression to industry and academia after the graduation.

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
2.1	Process of teaching and learning and student-centred teaching methodology	Compliant
2.2	Practical training	Compliant
2.3	Student assessment	Compliant

3. Teaching staff *(ESG 1.5)*

Sub-areas

3.1 Teaching staff recruitment and development
3.2 Teaching staff number and status
3.3 Synergies of teaching and research

3.1 Teaching staff recruitment and development

Standards

- *Institutions ensure the competence of their teaching staff.*
- *Fair, transparent and clear processes for the recruitment and development of the teaching staff are set up.*
- *Teaching staff qualifications are adequate to achieve the objectives and planned learning outcomes of the study programme, and to ensure quality and sustainability of the teaching and learning.*
- *The teaching staff is regularly engaged in professional and teaching-skills training and development.*
- *Promotion of the teaching staff takes into account the quality of their teaching, their research activity, the development of their teaching skills and their mobility.*
- *Innovation in teaching methods and the use of new technologies is encouraged.*
- *Conditions of employment that recognise the importance of teaching are followed.*
- *Recognised visiting teaching staff participates in teaching the study programme.*

3.2 Teaching staff number and status

Standards

- *The number of the teaching staff is adequate to support the programme of study.*
- *The teaching staff status (rank, full/part time) is appropriate to offer a quality programme of study.*
- *Visiting staff number does not exceed the number of the permanent staff.*

3.3 Synergies of teaching and research

Standards

- *The teaching staff collaborate in the fields of teaching and research within the HEI and with partners outside (practitioners in their fields, employers, and staff members at other HEIs in Cyprus or abroad).*
- *Scholarly activity to strengthen the link between education and research is encouraged.*
- *The teaching staff publications are within the discipline.*

- *Teaching staff studies and publications are closely related to the programme's courses.*
- *The allocation of teaching hours compared to the time for research activity is appropriate.*

You may also consider the following questions:

- *How are the members of the teaching staff supported with regard to the development of their teaching skills? How is feedback given to members of the teaching staff regarding their teaching results and teaching skills?*
- *How is the teaching performance assessed? How does their teaching performance affect their remuneration, evaluation and/or selection?*
- *Is teaching connected with research?*
- *Does the HEI involve visiting teaching staff from other HEIs in Cyprus and abroad?*
- *What is the number, workload, qualifications and status of the teaching staff (rank, full/part timers)?*
- *Is student evaluation conducted on the teaching staff? If yes, have the results of student feedback been analysed and taken into account, and how (e.g., when planning in-service training for the teaching staff)?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

The EEC considered the submitted documentation and met with staff to understand the clarity and fairness of the approach on how the university recruits, appoints, inducts and supports academic staff in delivering high quality teaching, research and student experience. Based on these, the recruitment and selection procedure seems to be fair and clear. There are clear criteria for different teaching ranks (professor, associate professor etc) and clear guidelines for progression and promotion.

There are some central procedures to support staff induction and staff development. However, these are not systematically structured and there is no training activity menu. Another shortcoming is that new academic staff are not always assigned a mentor. On the positive side, the EEC has found that the university is supporting its staff undertake research and publish their research findings. Support is in both financial and time allowance terms. The minimum teaching load is 6 hours of teaching per week. Staff is expected to teach approximately 25-30% of their time. A startup package of approximately 40000 Euros in research funding (for 2 years) and approximately 15000 Euros for equipment is offered to newly hired staff. Sabbaticals of approximately 6 months are offered to staff every 3 years. The research output of the staff involved in this program, over the last 7 years, includes: 170+ journal publications, 22+ conference publications, 15500+ citations, 5 patents, 36 book chapters, 45+ externally funded research projects (8.4 million Euros brought in during the last 5 years alone). Part of this research output is disseminated through internationally elite publications, such as Nature. Collectively, the above figures are impressive.

The link between teaching and research is healthy. At least 2 undergraduate students of the program have been co-authors in scientific publications. Other graduates of the programme are pursuing a PhD in this area.

There are currently 5 permanent academic staff involved in the program delivery (all of them are men). Out of the 5, 1 is a full professor, 1 is associate, 3 are assistant professors. There was one more professor, who recently passed away, and this position is expected to be filled in the near future, raising the total professorial number to 6. There are also two permanent senior lecturers and 1 permanent lecturer involved in the programme, as well as a 3 teaching staff and a number of non-permanent scientific staff. Almost all faculty staff have a PhD. There is a small number of staff who do not have a PhD (they are transferred to the university from higher educational institutes which did not require a PhD at the time when they were hired. This practice has now ceased).

The CVs of existing staff demonstrate very good evidence of appointed academic staff having prior and relevant teaching and research experience in other higher education institutions. Research expertise and publication records are relevant and consistent to the program of study.

There is a student survey which gathers student feedback which is being used for staff evaluation purposes but not used as part of the annual program of study review and self-assessment. There are no teaching and observation peer review procedures.

As a whole, the teaching staff is highly commended by the students for the particularly friendly and supportive environment. However, students have pointed out the lack of female academic staff as a weakness.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

The staffing base and the low number of students have contributed to an excellent Student-Staff Ratio (SSR) that is less than 10. Staff expertise is consistent with the program of study and it seems that they receive appropriate support to undertake research. This is evident by the strong research output of the staff involved in this program.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

The EEC has identified lack of training support and therefore, it requires the development of systematic central support menu with regards to new staff induction, and mentoring and development support for existing staff members. This aspect of teaching staff development is required to fully meet the criteria.

The EEC has also realised that there are no procedures for staff peer review and therefore it recommends for the development and implementation of a relevant procedure. In particular, a minimum of didactic & pedagogical training should be compulsory to all staff.

The EEC recommends that student aggregated feedback following the course evaluation survey should be used in the program review procedures. Finally, the EEC recommends that targeted efforts are made to recruit female academic staff of high scientific calibre.

An area of concern is the relative number of permanent academics versus non-permanent teaching staff. The EEC recommends further appointments of permanent academic staff to strengthen the academic cohort and allow the development of the program in strategic areas.

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
3.1	Teaching staff recruitment and development	Partially Compliant
3.2	Teaching staff number and status	Compliant
3.3	Synergies of teaching and research	Compliant

4. Student admission, progression, recognition and certification *(ESG 1.4)*

Sub-areas

4.1 Student admission, processes and criteria
4.2 Student progression
4.3 Student recognition
4.4 Student certification

4.1 Student admission, processes and criteria

Standards

- *Pre-defined and published regulations regarding student admission are in place.*
- *Access policies, admission processes and criteria are implemented consistently and in a transparent manner.*

4.2 Student progression

Standards

- *Pre-defined and published regulations regarding student progression are in place.*
- *Processes and tools to collect, monitor and act on information on student progression, are in place.*

4.3 Student recognition

Standards

- *Pre-defined and published regulations regarding student recognition are in place.*
- *Fair recognition of higher education qualifications, periods of study and prior learning, including the recognition of non-formal and informal learning, are essential components for ensuring the students' progress in their studies, while promoting mobility.*
- *Appropriate recognition procedures are in place that rely on:*
  - *institutional practice for recognition being in line with the principles of the Lisbon Recognition Convention*
  - *cooperation with other institutions, quality assurance agencies and the national ENIC/NARIC centre with a view to ensuring coherent recognition across the country*

4.4 Student certification

Standards

- *Pre-defined and published regulations regarding student certification are in place.*
- *Students receive certification explaining the qualification gained, including achieved learning outcomes and the context, level, content and status of the studies that were pursued and successfully completed.*

You may also consider the following questions:

- *Are the admission requirements for the study programme appropriate? How is the students' prior preparation/education assessed (including the level of international students, for example)?*
- *How is the procedure of recognition for prior learning and work experience ensured, including recognition of study results acquired at foreign higher education institutions?*
- *Is the certification of the HEI accompanied by a diploma supplement, which is in line with European and international standards?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Appropriate admission requirements are in place and clearly communicated. The minimum admission requirement is a grade point average of 17.2/20 in the general school leaving exams in the Cypriot state educational system, or equivalent for international admissions. There are very few Erasmus students, about 1-2 per year.

There are appropriate plans to support student progression and attainment. Academic advisors and tutors are available to support and monitor student progression. The grading and degree classification systems are comparable to other national and international Higher Education Institutions.

The EEC has observed that student progression from year to year in the degree program is appropriately monitored and supported by exams and other means of assessment so that students can move forward in their studies. Specifically, students' progress given the learning outcomes is continuously monitored with exams, tests, projects, practical assignments. Students receive constructive feedback on their progress in both courses and practical project work. Flexibility is demonstrated: for instance, students have a period of 2 weeks to swap to another elective course, if they wish. Safety mechanisms are also in place to ensure student learning: for instance, classes with a failure rate above 50% have to be re-offered in the summer period. Another example is that students who are struggling are offered extra tutoring during the course, so that they do not fail it.
There are very few female students. The gender gap is a general and important issue to be addressed. A strategy should be designed and implemented to address this.

The Department monitors that student performance and wellbeing and supportive services are in place. A drop out rate of 6% was reported and an employment rate of 100% of the most recent graduates. Both of these rates are very satisfactory.

There are appropriate plans to support student progression and attainment. Academic advisors and tutors are available to support and monitor student progression. The grading and degree classification systems are comparable to other national and international Higher Education Institutions.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Student admission is competitive. There is a low student to teacher ratio, which contributes to a positive atmosphere of trust, focused teaching and room for dialogue and support for students.

Students completing the program receive recognition through the accreditation process by the national and international bodies, including the Technical Chamber of Cyprus (ETEK), which is the engineering regulatory body in Cyprus.

According to students' feedback during this evaluation process, the EEC has observed a high level of satisfaction among students, regarding the program and the support they receive.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

A formal feedback on assessed coursework and assignments should be consistently provided in all modules.

The EEC recommends the development of an action plan to help increase the number of applicants and of enrolled students over the next few years. Some initiatives could be devised to help attract more female applicants. Examples of such initiatives include: 1) using the current female students and female graduates as "ambassadors" and inviting them to go back to their high school to talk to and inspire high school students, especially females; 2) setting up a gender-balanced focus group of high school and university students in order to gain insights into what aspects of computer science and engineering would attract female students and how these should be communicated to them; 3) having a gender-balanced website and external presence of the university in broader activities, to the extent that this is possible.

To attract larger numbers of students, it may be helpful to enrich courses with hot topics in the field, and to actively promote and advertise the positive values and high potential of this program to prospective students and relevant stakeholders.

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
4.1	Student admission, processes and criteria	Compliant
4.2	Student progression	Compliant
4.3	Student recognition	Compliant
4.4	Student certification	Compliant

5. Learning resources and student support *(ESG 1.6)*

Sub-areas

5.1 Teaching and Learning resources
5.2 Physical resources
5.3 Human support resources
5.4 Student support

5.1 Teaching and Learning resources

Standards

- *Adequate and readily accessible teaching and learning resources (teaching and learning environments, materials, aids and equipment) are provided to students and support the achievement of objectives in the study programme.*
- *Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).*
- *All resources are fit for purpose.*
- *Student-centred learning and flexible modes of learning and teaching, are taken into account when allocating, planning and providing the learning resources.*

5.2 Physical resources

Standards

- *Physical resources, i.e. premises, libraries, study facilities, IT infrastructure, are adequate to support the study programme.*
- *Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).*
- *All resources are fit for purpose and students are informed about the services available to them.*

5.3 Human support resources

Standards

- *Human support resources, i.e. tutors/mentors, counsellors, other advisers, qualified administrative staff, are adequate to support the study programme.*
- *Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).*

- *All resources are fit for purpose and students are informed about the services available to them.*

5.4 Student support

Standards

- *Student support is provided covering the needs of a diverse student population, such as mature, part-time, employed and international students and students with special needs.*
- *Students are informed about the services available to them.*
- *Student-centred learning and flexible modes of learning and teaching, are taken into account when allocating, planning and providing student support.*
- *Students' mobility within and across higher education systems is encouraged and supported.*

You may also consider the following questions:

- *Evaluate the supply of teaching materials and equipment (including teaching labs, expendable materials, etc.), the condition of classrooms, adequacy of financial resources to conduct the study programme and achieve its objectives. What needs to be supplemented/ improved?*
- *What is the feedback from the teaching staff on the availability of teaching materials, classrooms, etc.?*
- *Are the resources in accordance with actual (changing) needs and contemporary requirements? How is the effectiveness of using resources ensured?*
- *What are the resource-related trends and future risks (risks arising from changing numbers of students, obsolescence of teaching equipment, etc.)? How are these trends taken into account and how are the risks mitigated?*
- *Evaluate student feedback on support services. Based on student feedback, which support services (including information flow, counselling) need further development?*
- *How is student learning within the standard period of study supported (student counselling, flexibility of the study programme, etc.)?*
- *How students' special needs are considered (different capabilities, different levels of academic preparation, special needs due to physical disabilities, etc.)?*
- *How is student mobility being supported?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Overall, students receive high-quality theoretical training on all key areas of Computer Science although specific modules i.e. Python is not offered as core modules. Modules' titles and contents are consistent with the expectations of a high-quality degree offering. Adequate and modern learning resources are available to the students, including the following: facilities, library, infrastructure, student welfare, academic mentoring. All facilities are fit for purpose to achieve the course learning outcomes with a student-centred approach.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

The Department uses computer laboratories, designated areas for group and individual work, a library, rooms for developing learning skills, and research spaces. The Department periodically assesses the adequacy and suitability of these resources and informs the responsible services of the University for their actions. The Department has established a process to promote requests for the continuous upgrading and maintenance of laboratories and equipment, and for the unimpeded access of students to the workshops.
Structure of the programme of study and its delivery is in accordance with that of the institution's standards.
Students appear very satisfied with the programme, the teaching staff, and their interactions with the teaching staff.
All regulations supporting student progress and satisfaction monitoring are in place.

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

Student welfare mechanisms, for monitoring the sufficiency of student support are in place. Nevertheless, the above mentioned recommendation to introduce an EDI Committee will strengthen this area.

The panel recommends in the future, when the staff members and the curriculum modules advance in numbers, to consider a formal T&L Committee to monitor the T&L processes, curriculum review and resources at all stages taking into account the student and staff feedback with inclusion of an official industry advisory Board and External examiner. It is recommended to have in place procedures, appropriate training, guidance and support, for teaching personnel, to enable personnel to efficiently support the educational process.

Although each student has an academic mentor, there has been scientific evidence that students benefit from the inclusion of student mentors in the support services of the department, where the mentor is at a higher stage of studies (student buddy system).

The School should consider a rigorous process of data collection in terms of reviewing the pipeline from undergraduate students to postgraduate, research and staff members. There is an under representation of female students and staff in the department and actions should be taken in order to change the picture of the school, where the students and the staff can identify themselves within the computer science department identity.

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
5.1	Teaching and Learning resources	Compliant
5.2	Physical resources	Compliant
5.3	Human support resources	Compliant
5.4	Student support	Compliant

6. Additional for doctoral programmes *(ALL ESG)*

Sub-areas

6.1 Selection criteria and requirements
6.2 Proposal and dissertation
6.3 Supervision and committees

6.1 Selection criteria and requirements

Standards

- *Specific criteria that the potential students need to meet for admission in the programme, as well as how the selection procedures are made, are defined.*
- *The following requirements of the doctoral degree programme are analysed and published:*
  - *the stages of completion*
  - *the minimum and maximum time of completing the programme*
  - *the examinations*
  - *the procedures for supporting and accepting the student's proposal*
  - *the criteria for obtaining the Ph.D. degree*

6.2 Proposal and dissertation

Standards

- *Specific and clear guidelines for the writing of the proposal and the dissertation are set regarding:*
  - *the chapters that are contained*
  - *the system used for the presentation of each chapter, sub-chapters and bibliography*
  - *the minimum word limit*
  - *the binding, the cover page and the prologue pages, including the pages supporting the authenticity, originality and importance of the dissertation, as well as the reference to the committee for the final evaluation*
- *There is a plagiarism check system. Information is provided on the detection of plagiarism and the consequences in case of such misconduct.*
- *The process of submitting the dissertation to the university library is set.*

6.3 Supervision and committees

Standards

- *The composition, the procedure and the criteria for the formation of the advisory committee (to whom the doctoral student submits the research proposal) are determined.*
- *The composition, the procedure and the criteria for the formation of the examining committee (to whom the doctoral student defends his/her dissertation), are determined.*
- *The duties of the supervisor-chairperson and the other members of the advisory committee towards the student are determined and include:*
  - *regular meetings*

- *reports per semester and feedback from supervisors*
- *support for writing research papers*
- *participation in conferences*

- *The number of doctoral students that each chairperson supervises at the same time are determined.*

You may also consider the following questions:

- *How is the scientific quality of the PhD thesis ensured?*
- *Is there a link between the doctoral programmes of study and the society? What is the value of the obtained degree outside academia and in the labour market?*
- *Can you please provide us with some dissertation samples?*

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

NA

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

NA

Areas of improvement and recommendations

A list of problem areas to be dealt with, followed by or linked to the recommendations of how to improve the situation.

NA

Please select what is appropriate for each of the following sub-areas:

Sub-area		***Non-compliant/ Partially Compliant/Compliant***
6.1	Selection criteria and requirements	NA
6.2	Proposal and dissertation	NA
6.3	Supervision and committees	NA

D. Conclusions and final remarks

Please provide constructive conclusions and final remarks which may form the basis upon which improvements of the quality of the programme of study under review may be achieved, with emphasis on the correspondence with the EQF.

The EEC reviewed and examined the materials provided by the Cyprus University of Technology pertaining to its four-year Bachelor's Degree Program in Computer Engineering and Informatics of the Department of Electrical Engineering, Computer Engineering and Informatics. The one-day site visit was held on 16.6.2021.

The EEC was presented with detailed information about the degree program. During the site visit, the EEC met university, school and department leadership peers and met professors, teachers and administrators. It also met current and past students of the program.

Based on the examination and evaluation of the accreditation materials and the remote site visit, the EEC concludes that the required standards are met with the exception of staff development, which is partially met.

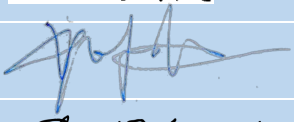
The EEC identified the following key strengths:

- In the program structure there is evidence of a particularly positive synergy with Electrical Engineering, that already provides a good specialisation and can provide the opportunity for the revision and enhancement of the program aimed at maintaining and improving an excellent graduate employability.
- There is a low student to staff ratio and students have commented that the instructors are accessible and the department provides a supportive environment.
- The program is accredited by ETEK and there is evidence of excellent employability of the graduates.
- There is evidence of excellent research activities, from which the UG students can benefit indirectly (research informed teaching) and directly with their involvement in research projects.
- As a whole, the teaching staff is highly commended by the students for the particularly friendly and supportive environment.

The EEC also identified a number of key areas for improvement and therefore, the following recommendations are made:

- A program review process should be periodically carried out to provide a strategic direction of development towards some important thematic areas, such as AI/ML, Cybersecurity and IoT.
- A course dedicated to the programming language Python should be introduced.
- A formal industry advisory board should be introduced to work in association with the Teaching & Learning (T&L) Committee to provide feedback for a periodic curriculum review.
- Additional key appointments will help to develop the program in some strategic directions and improve the ratio between permanent and non-permanent teaching staff.
- Student feedback should be aggregated, summarised and communicated back to the students. Student feedback should also be explicitly considered in the program review process.
- The development of central and departmental support for new staff to provide induction and mentoring. In particular, a minimum of didactic & pedagogical training should be compulsory to all new staff.
- The department should develop a policy for staff peer review of teaching.
- An Equality, Diversity and Inclusion (EDI) Committee should be introduced to provide support to the students and staff members. The development of an action plan should be devised to help improve diversity and inclusion, and, in particular, to increase the numbers of female students and staff members.

E. Signatures of the EEC

Name	*Signature*
Giuseppe Di Fatta	
Christina Lioma	
Eleni Mangina	
Ioannis Zapitis	
Michael Michael	

Date: 22/06/2021