Doc. 300.1.2

Higher Education Institution's Response

Date: 07/07/2025

- **Higher Education Institution: University of Nicosia**
- **Town: Nicosia**
- **School/Faculty: School of Sciences and Engineering**
- **Department: Computer Science**
- **Programme(s) of study - Name (Duration, ECTS, Cycle)**

In Greek:
Πληροφορική (4 ακαδημαϊκά έτη, 240 ECTS, Πτυχίο(BSc))
In English:
Computer Science (4 academic years, 240 ECTS, Bachelor(BSc))
Language(s) of instruction: English

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 2021 [L.136(I)/2015 – L.132(I)/2021].

A. Guidelines on content and structure of the report

- *The Higher Education Institution (HEI) based on the External Evaluation Committee's (EEC's) evaluation report (Doc.300.1.1 or 300.1.1/1 or 300.1.1/2 or 300.1.1/3 or 300.1.1/4) must justify whether actions have been taken in improving the quality of the programme of study in each assessment area. The answers' documentation should be brief and accurate and supported by the relevant documentation. Referral to annexes should be made only when necessary.*

- *In particular, under each assessment area and by using the 2nd column of each table, the HEI must respond on the following:*

    - *the areas of improvement and recommendations of the EEC*
    - *the conclusions and final remarks noted by the EEC*

- *The institution should respond to the EEC comments, in the designated area next each comment. The comments of the EEC should be copied from the EEC report **without any interference** in the content.*

- *In case of annexes, those should be attached and sent on separate document(s). Each document should be in *.pdf format and named as annex1, annex2, etc.*

0. Introduction

We would like to thank the External Evaluation Committee (EEC) for their professional and thorough work during the on-site evaluation of the BSc in Computer Science programme on June 26, 2025. We would also like to express our appreciation for the collegial and constructive approach with which they conducted their evaluation.

During the visit, the EEC met the faculty supporting the programme, and had separate meetings with students and alumni of the programme, as well as external stakeholders that are members of the Department of Computer Science Advisory Board.

We would like to also thank the EEC for their extremely positive evaluation where **all 18 out of 18 quality indicators received the top rating of "Compliant"** (amongst the choices of compliant, partially compliant, non-compliant).

More specifically, the EEC states, amongst other:

- "The EEC recognises the good quality of the educational programmes offered by Department - as evidenced by both the student satisfaction, and by the documented employability of graduates from the programmes as presently delivered at UNIC."

- "The faculty members within the Department are active researchers in their fields. They conduct application-inspired research aiming to make societal impact. They contribute to Open Science, e.g., by publishing open datasets that can foster research development on societally important topics notably, in healthcare."

- "The BSc in Computer Science has been offered since 2007 with a mature syllabus based on the IEEE/ACM guidelines."

- "The graduates from the Degree are well regarded by industrial stakeholders who host them as interns and employ them after graduation."

- "The students on the Degree feel well prepared for employment in the IT industry."

- "The Department has mechanisms in place for seeking advice on a need-to basis from external stakeholders from industry on trends and priorities for new courses."

- "The students reflect positively on receiving timely grading and feedback on their work."

- "The students reflect positively on availability of education staff for face-to-face meetings."

- "The students reflect positively on possibilities to do internships with industry."
- "There are indicators of a very good faculty–student engagement within the Department."
- "There are indicators of a very good engagement between Alumni and the Department."
- "The EEC is impressed by the agility that the Department has exhibited, in adapting the BSc programme in CS following the report from the May 29 visit. The EEC recognises that its recommendations were followed, and that the department proposed both processes and curriculum changes, thus improving and updating the programme."

We appreciate EEC's acknowledgment noted above, that the Department indeed followed the EEC recommendations of the May 29 visit, and that the Department proposed processes and curriculum changes. We do appreciate the committee's further recommendations for improvement following the visit of June 26, which will enhance the quality of our program even further and we will be addressing those in the corresponding section of this response.

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

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

Positive comments made by the EEC:

- "The BSc in Computer Science has been offered since 2007 with a mature syllabus based on the IEEE/ACM guidelines."
- "Processes are in place for the design, approval and monitoring of the delivery of courses."
- "The Department has well-developed delivery mechanisms including the Moodle Learning Management System."
- "The Department has mechanisms in place for seeking advice on a need-to basis from external stakeholders from industry on trends and priorities for new courses."
- "The programme contains options for industrial placements for students who so desire."
- "A mechanism is in place to act promptly on students' anonymous feedback to improve all aspects of course delivery."
- "The graduates from the Degree are well regarded by industrial stakeholders who host them as interns and employ them after graduation."
- "The students on the Degree feel well prepared for employment in the IT industry."
- "The thematic area of "Cybersecurity and Privacy" is very attractive, and there are interesting evolutions possible that would strengthen the profile and employability of the graduates following it."

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
1.1 "At the recent (May 29, 2025) evaluation of the programme, as part of the evaluation by the EEC of the UNIC-Athens extension of the Department, the EEC found that the material taught in the compulsory courses in the BSc in Computer Science degree needed urgent revision and update to reflect the rapid changes in the field, to better align with the EQF-6 standards. The EEC also gave several concrete suggestions for curriculum updates (creation of a course on the mathematical	We are pleased that the EEC "is satisfied with the content of these new, or restructured, courses." . These changes were incorporated following the recent May 29 visit, and presented to the same EEC on June 26. The changes are summarized as follows: Course syllabi were checked and updated, as necessary, by: - making adjustments for new technological developments, and - verifying that learning outcomes reflect EQF-6 descriptors of mastery, innovation, and the ability to solve complex, unpredictable problems.	Choose level of compliance:

foundations for CS, creation of a course in programming paradigms, unifying of courses in algorithms and data structures, introduction of a compulsory course in ML, ….). The Department has implemented the recommendations the EEC proposed, and the EEC is satisfied with the content of these new, or restructured, courses. The department deserves credits for their swift reactivity to these recommendations."	The following courses underwent major revision/changes: MATH-101 Discrete Mathematics, the first mathematics course that students take, has been replaced by MATH-111 Mathematics and Logic for -Computation. The new course will be scheduled in Semester 1 of studies. COMP-211 Data Structures has been replaced by COMP-221 Advanced Programming and Paradigms which will expose the students to different paradigms and will teach them advanced programming concepts. This course will be scheduled in Semester 3 of studies. COMP-370 Algorithms has been replaced by COMP-270 Data Structures and Algorithms. The revised syllabus covers algorithms and data structures. This course will be scheduled in Semester 4 of studies. The updated course outlines are attached with this response.	
1.2 "The present required course "Network and Data Communication" does not provide the learning outcomes / competencies expected (how to write a networked app/server, understand how to configure / set up a network, understand how to debug network problems). Rather it treats more advanced topics, as well as outdated topics (TokenRing, FDDI, the OSI model..) — all of which, while perhaps intellectually/historically interesting, does not contribute to the skills that are expected for every student with a BSc in CS. The EEC would like to strongly recommend the following: -The current course "Network and Data Communication" should be renamed "Further Studies in Networking Technologies" (or	We have revised COMP-358 to further strengthen its focus on practical and modern networking skills. Specifically, we have incorporated additional topics from the elective course COMP-470 ("Internet Technologies") into COMP-358. These include: 1.Modern network programming techniques (e.g., writing client/server applications using REST APIs, parsing JSON/XML). 2. Enhanced coverage of network configuration and troubleshooting, including practical exercises on DHCP, DNS, routers, switches, and IP subnetting. 3. Expanded further the use of industry-standard tools such as Wireshark and Cisco network emulators for hands-on network analysis and debugging. In addition, the lab components of COMP-358 now include extensive, revised lab sessions that allow students to gain practical experience with the [1-3] and explore real-world network scenarios	Choose level of compliance:

something similar), made an elective, and moved to a later semester. The EEC strongly recommends to also elide "outdated" technologies from the course content (except if they are useful as a pedagogical device). The current elective course "Internet Technologies" should be renamed "Network and Data Communication", and made a required course in the BSc in CS. The EEC strongly recommends to, in this course, provide significant lab exercises and projects allowing students to acquire skills in "modern" network programming (writing non-trivial client/server, REST, parsing json/xml), network configuration (components of a computer network, IP addresses, routers, switches, DHCP/DNS servers) and network debugging."	through emulation. These enhancements ensure that students acquire the expected competencies, including the ability to diagnose, build, and understand real-world networked systems. In addition to the above we have removed the legacy topics suggested and minimized coverage of these technologies.	
1.3 "The EEC strongly recommends that the present course "Internet of Things and Wearable Computing" be updated, along the following axis: -Emphasise the key feature of resource constraints (processing cycles, memory and energy) in battery-powered IoT platforms, which has led to development of lean operating systems, MAC protocols for duty cycling, mesh - and point-to-point networking protocols, and IEEE standards such as 802.15.4. -Introduce machine learning models for classification of IMU sensors for human activity classification which introduces students to real-time analysis of time-series data from wearable devices."	In response to the recommendations, we have incorporated the suggested ML models for the classification of IMU sensor data for human activity recognition into the relevant course material. Additionally, students will be given a dedicated assignment to design and implement ML models for time-series classification using IMU sensor data, focusing on practical applications in wearable computing such as activity recognition, health monitoring, and exercise classification. We have also updated the required and recommended reading lists to ensure students have access to the latest resources on IoT system constraints for wearables. All changes are reflected in the updated course outline, including the weekly schedule, learning outcomes, and assessment methods.	
1.4 "The thematic area of "Cybersecurity and Privacy" is	We agree with the EEC's observations on "Cybersecurity and Privacy" prospects and	

very attractive, and there are interesting evolutions possible that would strengthen the profile and employability of the graduates following it."	we welcome their suggestions on how to strengthen the CS curriculum in this area.	
1.5 "The EEC wishes to strongly recommend that, within a short horizon, an elective course in "Cybergovernance" is introduced: there is a significant need of professionals with both a technical baggage and an operational understanding of that area."	A new course, COMP-230 Cybersecurity Governance has been introduced as a Major Elective. The course was also added in the Thematic Area: Cybersecurity and Privacy. The new course outline is attached.	Choose level of compliance:
1.6 "The EEC recommends reflections on the place of the concept of a "blockchain" in its programme. It currently is mentioned in the course "Network Security" (though, has little — if any — relation to network security). If it is a concept that the department estimates the graduates should all be familiar with, perhaps it would be better covered in the required course COMP-431? Likewise, if the department estimates that the notion of a "blockchain" is relevant to cybersecurity professionals, then should the course "Blockchain Programming" be part of the electives of the "Cybersecurity and Privacy" thematic area?"	We aligned with the recommendation of the EEC and we removed the references to Blockchain from the syllabus of the course COMP-432 Network Security and adjusted it accordingly. The updated course outline is included with this response.	Choose level of compliance:
1.7 "The EEC suggest medium-term reflections on, for want of a better term, "modern platforms" — Virtualisation, Containerisation, co-tenancy, and the issues that systems deployment via microservices bring, is likely to become significant topics for cybersecurity professionals in the near future. The EEC suggests that reflections might lead to a programme update when the	We appreciate the EEC suggestion for these future reflections and we will make the necessary amendments in the next update of the program, as suggested by the EEC.	Choose level of compliance:

programme is submitted for accreditation in the next cycle?"		
1.8 "Although there exists an optional course on Compilers, it was evident that Computer Science students can gain a degree without exposure to any compiler concepts. The EEC strongly recommends the following: -In COMP335, introduce the concept of Reduced Instruction Set Architectures (RISC) as covered in Hennesey and Patterson (the recommended textbook for the course) and emphasise why they are good targets for compilers; the different stages in a typical RISC compiler and a programming exercise in implementing a simple parser. - COMP 417 would benefit from some modernisation by removing outdated message-passing, distributed memory architectures and introducing many-core multithreaded architectures instead; introduce a topic in modern parallelising compilers for multithreaded architectures"	We agree with the suggestions of the EEC and we made changes to the COMP-335 and COMP-117. More specifically, the RISC topic was added in COMP-335 Computer Organization and Architecture. Also, the comments provided by the committee on the syllabus of COMP-417 Parallel and Distributed Computing, have been taken into account. The course has been revised to incorporate the recommendations. More specifically the topic on message-passing has been replaced with a topic on current trends in both architectures (of parallel systems) and Frameworks/Middleware/ Compilers used to develop applications for these systems. Revised course outlines are attached.	

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

Positive comments made by the EEC:

- "The students reflect positively on receiving timely grading and feedback on their work."
- "The students reflect positively on availability of education staff for face-to-face meetings."
- "The students reflect positively on possibilities to do internships with industry."

We would like to thank the EEC for considering this evaluation topic as fully compliant and note that we have taken into consideration and addressed the additional comments highlighted by the EEC that enable the programme to strengthen its offerings and allow the students to further excel in their studies.

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
2.1 "The EEC suggests introducing elements of challenge-based learning (e.g., data challenges, hackathons, case studies, e.g., from science or application domains that are focal areas of the department.). -The EEC suggests introducing elements of collaborative and peer learning, e.g., code reviews and pair programming, peer evaluation of ML pitfalls from conceptualisation to modelling to evaluation, reproducing results, discussing privacy and ethical issues, etc."	Hackathons, code-retreats, and programming challenges are organized for student participation. Some activities are also embedded in courses like COMP-117 Software Development Essentials and COMP-119 Collaborative Software Development. Collaborative learning is practiced through group projects and peer evaluation activities taken in a number of courses, including COMP-201 Systems Analysis and Design and COMP-401 Software Engineering. Case studies are used in courses such as COMP-242 Data Privacy and Ethics and other. Challenge-based learning approaches are followed in courses such as COMP-263 Human-Computer Interaction, COMP-201 Systems Analysis and Design, COMP-401 Software Engineering and other. In course outlines, the "Learning activities and teaching methods" and the "Assessment Methods" sections, have been updated to include these descriptions.	Choose level of compliance:
2.2 "The EEC recommends establishing and continuously	The University already provides such as program. The description of	

growing a PhD-Teaching Assistant (TA) program that can facilitate closer supervision and mentorship of student groups and individual students."	the PhD-TA program is detailed in Chapter 12.25 of the university regulations. In brief, doctoral students who have completed the University's pedagogical training sessions for TA can apply for a teaching assistantship that covers, among others, student mentorship, coursework grading, and lab assistance and tutorial preparation. TAs are closely supervised by the doctoral student's advisor. TAs are important in both preparing the doctoral student for future academic duties but also for reducing faculty workload.	

3. Teaching staff
(ESG 1.5)

Positive comments made by the EEC:

- "The EEC finds that the Department has a commendable and complete process for on-boarding new faculty members: a mandatory 12-week training programme, mentorship from senior faculty members."
- "The EEC finds that the processes for recruitment of faculty members, as well as their career advancement and other professional procedures, are well documented and available."
- "The faculty members within the Department are active researchers in their fields. They conduct application-inspired research aiming to make societal impact. They contribute to Open Science, e.g., by publishing open datasets that can foster research development on societally important topics notably, in healthcare."
- "There are indicators of a very good faculty–student engagement within the Department ."
- "There are indicators of a very good engagement between Alumni and the Department."
- "Faculty members are well-informed about quality assurance aspects including individual course improvement, and on how to deal with potential misconduct of students."
- "Faculty members are well-informed about the student safety aspects."
- "The Department provides mentorship for new hires, and informs them about expectation for promotion to higher ranks."
- "New hires may apply for, and can obtain, an UNIC Seed-grant."

We would like to thank the EEC for considering this evaluation topic as fully compliant and note that we have taken into consideration and addressed the additional comments highlighted by the EEC.

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
3.1 "The EEC recommends establishing and continuously growing a PhD-Teaching Assistant (TA) program to boost the development of robust and vibrant ecosystem facilitating reduced load, and higher quality research and education, synergy between research and education and industrial collaboration."	Discussed in 2.2	Choose level of compliance:
3.2 "The EEC also recommends enhancing their programme for Visiting Professors for the same reasons, as well as to foster further	We appreciate the suggestion of the EEC for Visiting Professors and we would like to note that the Department already has Visiting	Choose level of compliance:

help with establishing a more competitive course offering and strengthening the curriculum, research strategy and education vision of the department."	Faculty. Professor Yannis Manolopoulos, who is also a Professor Emeritus at Aristotle University of Thessaloniki, Greece, is currently a Visiting Professor in our Department since October 2024. In addition, Dr. Ivan C. Christov, Associate Professor of Mechanical Engineering at Purdue University, USA, has also served as a Visiting Faculty for 6 months in 2022 and 2023. Therefore, the Department fully supports the idea of inviting distinguished scholars to broaden collaborations among faculty, extend the research strategy of the Department and strengthen the curriculum. For this reason, we plan on continuing this practice of Visiting Professors. For thoroughness, we attach chapter 6.2 of the University regulations that outlines in section 6.2.8 the regulations of the Visiting Professor programme.	
3.4 "The EEC suggests providing pedagogical training beyond the current requirement helping existing staff and especially for to-be-hired staff to develop rich portfolio of teaching methods including flipped classrooms, challenged-based learning, and research-inspired education."	Faculty training is coordinated by the Faculty Training and Development Unit of the university (Faculty Training and Development Unit - University of Nicosia). The unit organizes every semester the "Faculty Professional Development Seminar on Teaching and Learning Theory and Practice", a 36-hour professional development seminar which leads to a Certificate in the areas of contemporary teaching methods, new technologies in learning and online education. Additionally, the unit offers other seminars and webinars throughout the year. Examples of the most recent training series include the 5-week (2h/week, 9/5-6/6/2025) on "Including Students with Diverse Needs in Higher Education" as well as the 4-week (2.5h/week, 17/6-8/7/2025) on "Mastering AI tools for academic use".	Choose level of compliance:

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

Positive comments made by the EEC:

- *"The university has name recognition."*
- *"The well-tested processes for admission have been refined over many years."*
- *"The university rules and regulations are complete, detailed, clear, and easily accessible, and competently implemented by the Department."*
- *"The requirements for admission to the BSc courses are stated clearly in the publicly available website."*
- *"Well-refined student admissions processes are established."*
- *"Well-documented student progress tracking is in place."*

We would like to thank the EEC for considering this evaluation topic as fully compliant without including any additional comments for improvement.

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
N/A	Click or tap here to enter text.	Choose level of compliance:

5. Learning resources and student support

(ESG 1.6)

Positive comments made by the EEC:

- "The university uses Moodle as its LMS — and the Department has processes ensuring that it is used extensively, giving students access to their learning resources wherever they are."
- "The library is extensive — and well integrated with the LMS."
- "The library provides on-line access for students, supporting flexible working patterns and environments."
- "The Department has extensive computer labs, as well as specialised facilities for VR, Robotics, etc."
- "The Department is hosted at the main campus of the University, thus with easy access to all facilities (Recreational, housing, …)."

We would like to thank the EEC for considering this evaluation topic as fully compliant without including any additional comments for improvement.

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
N/A	Click or tap here to enter text.	Choose level of compliance:

6. Additional for doctoral programmes

(ALL ESG)

N/A

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
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7. Eligibility (Joint programme)

(ALL ESG)

N/A

Areas of improvement and recommendations **by EEC**	Actions Taken by the Institution	For Official Use ONLY
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B. Conclusions and final remarks

Positive comments made by the EEC:

- "The EEC recognises the good quality of the educational programmes offered by Department - as evidenced by both the student satisfaction, and by the documented employability of graduates from the programmes as presently delivered at UNIC."
- "The EEC is impressed by the agility that the Department has exhibited, in adapting the BSc programme in CS following the report from the May 29 visit. The EEC recognises that its recommendations were followed, and that the department proposed both processes and curriculum changes, thus improving and updating the programme."
- "Overall, the EEC finds that the Department is well run, and has an effective and dynamic Head who manages to carry the department forward in the right direction. The EEC finds that the faculty members strive to attain high quality in their offerings, are experienced instructors and professors, and are enthusiastic about both the programmes, and their research. This gives the EEC confidence that they will be able to competently address the various recommendations given in this report."

Conclusions and final remarks **by EEC**	Actions Taken by the Institution	For Official Use ONLY
"Notwithstanding, the EEC has found that there are a couple of courses within the BSc programme, where there is still room for modernisation — as well as some "thematic areas" where there is scope for evolution. Notably, the EEC recommends revisiting the content of the set of courses around "computer networking", the courses around "computer architectures" and the courses around "cybersecurity". The EEC believes that a relatively modest effort would be required, for a significant improvement to the programme, and encourages the Department to undertake this effort."	As detailed in Section 1, we have corrected every identified misalignment and incorporated all EEC recommendations. We attach the course outlines for every core and elective course specifying learning outcomes, content, weekly schedule, assessment methods, and the expected student workload.	

C. Higher Education Institution academic representatives

Name	*Position*	*Signature*
Professor Dimitrios Drikakis	Dean of the School of Sciences and Engineering	
Professor Athena Stassopoulou	Head of Computer Science Department	
Dr Vasso Stylianou	BSc in Computer Science Program Coordinator	

Date: 07/07/2025

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