

Doc. 300.3.2

Date: 08/06/2021

Higher Education Institution's Response

(Departmental)

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

Programme 1 – BSc in Computer Science

In Greek:

Πληροφορική (4 χρόνια, 240 ECTS, Πτυχίο)

In English:

Computer Science (4 years, 240 ECTS, Bachelor (BSc))

Programme 2– MSc in Computer Science

In Greek:

Πληροφορική (1.5 χρόνια, 90 ECTS, Μεταπτυχιακό) με κατευθύνσεις σε (α) Ασφάλεια Κυβερνοχώρου, (β) Κινητά Συστήματα, και (γ) Τεχνολογίες Blockchain

In English:

Computer Science (1.5 years, 90 ECTS, Master of Science) with concentrations in (a) Cyber Security, (b) Mobile Systems and (c) Blockchain Technologies

Programme 3 – PhD in Computer Science

In Greek:

Διδακτορικό στην Πληροφορική (3 χρόνια, 180 ECTS, Διδακτορικό)

In English:

Computer Science (3 years, 180 ECTS, Doctorate (PhD))



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].

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.300.3.1) must justify whether actions have been taken in improving the quality of the department in each assessment area.*
- *In particular, under each assessment area, the HEI must respond on, without changing the format of the report:*
 - *the findings, strengths, areas of improvement and recommendations of the EEC*
 - *the deficiencies noted under the quality indicators (criteria)*
 - *the conclusions and final remarks noted by the EEC*
- *The HEI's response must follow below the EEC's comments, which must be copied from the external evaluation report (Doc. 300.3.1).*
- *In case of annexes, those should be attached and sent on a separate document.*

0. Introduction

We would like to thank the External Evaluation Committee (EEC) for their professional and thorough work during the online evaluation of the Department of Computer Science and three of its programs on April 8-9, 2021. We would also like to express our appreciation for the collegial and constructive approach with which they conducted their evaluation.

We would like to note that the report of the committee is ***extremely positive*** with **all sections of quality indicators being assessed as “Compliant”** (amongst the choices of: Compliant/partially compliant/non-compliant).

More specifically, the “*Compliant*” assessment was given to all aspects of the Department of Computer Science under evaluation: (1) Department’s academic profile and orientation, (2) Quality Assurance, (3) Administration, (4) Learning and Teaching, (5) Teaching Staff, (6) Research, and (7) Resources.

We welcome the EEC’s positive evaluation of our Department and the final conclusion which states: ***“Based on the examination and evaluation of the accreditation materials and the remote site visit, the EEC concludes that the required standards are met.”***

We do appreciate the committee’s recommendations for improvement, which will enhance the quality of our Department and its programs and we will be addressing those in the corresponding section of this response.

1. Department's academic profile and orientation

Sub-areas

- 1.1 Mission and strategic planning
- 1.2 Connecting with society
- 1.3 Development processes

We appreciate the EEC's assessment of this area. We note that **all quality indicators/criteria were assessed as "Compliant"** (amongst the choices of: Compliant/partially compliant/non-compliant).

Positive comments made by the EEC:

- *"The study programs form a coherent whole. There is no overlap of modules between the BSc and MSc programs."*
- *"The department has a clearly formulated mission statement that aspires to educate experts for a wide variety of careers with education based on research and the broader community with essential computer science skills."*
- *"The department has a clear process for strategic planning that follows an integrative annual cycle. The planning is monitored and connected with the departmental Quality Assurance process."*
- *"The university and department have active student performance and wellbeing monitoring and support services available."*
- *"Students' progress given the learning outcomes is continuously monitored with different instruments, such as exams, quizzes, tests, projects, case studies. Students receive proactive and constructive feedback on their progress."*
- *"The department advocates connecting research activities and findings with education. Students are reported to be active in research projects resulting in articles co-authored with students."*

Areas of improvement and recommendations made by EEC:

1.1 *"Examination of the three year average of student admittance and graduation numbers for the MSc and PhD programs indicate that the programs are operating as expected; however, the number of graduations with respect to the number of admitted students is low. Many of the students are working at the same time that explains why the completion of degrees can take more time than anticipated. The department is encouraged to analyse course and degree completion in more detail and mitigate any identified bottlenecks."*

Response/Action: As the EEC has observed, in the case of the graduate programs MSc and PhD, the students are working to finance their studies, and therefore follow a part-time mode of study. This may cause delays in graduation. However, it should be noted that students in part-time mode are contacted throughout the year, their load is monitored to ensure both that they remain in touch with the program and do not fall behind. In addition, the Academic Advisors identify at the end of the semester all low-performing students (i.e. students with GPA less than 2.0). These students are contacted and offered extra help and tutoring hours by the University's Student Success Center. Moreover, the Department is already analysing course and degree completion to identify bottlenecks by utilizing a dashboard tool. In addition to the dashboard use, the Department is currently developing a tool that will help us predict the student dropout. We believe that this will help us identify students facing difficulties and prioritize advice so that delays (and/or dropouts) can be avoided.

1.2 *"The computer laboratories appear adequate for the teaching purposes; however, the infrastructure could be more comprehensive for state of the art research activities. Mobile Computing, cloud etc, would require dedicated lab infrastructure for education and research."*

Response/Action: Our Department has substantial infrastructure to support its research activities. The following is a list of the Department's infrastructure that supports some of our research activities:

1) Google AI and IoT Kit, which includes:

- 1x Google AIY VOICE Kit for Raspberry Pi
- 1x Google AIY VISION Kit for Raspberry Pi
- 3x Google Edge TPU Machine Learning USB Accelerator
- 1x Google Edge TPU Machine Learning Developer Board

2) Nvidia AI GPU and Edge-enabled Testbed which includes 5x Jetson Nano Developer Kit with GPU 128-core Maxwell

3) Two drones (DJI Tello edu with python swarm sdk)

4) Raspberry Pi IoT Kit, which includes:

- 5x Raspberry Pi 3 – Model B (quad-core@1.2GHZ, 1GB RAM, wifi, Bluetooth) with cases and power supply and cabling
- 2x HDMI Display with touchscreen enabled via micro-usb (7"/8")
- 2x Miniature Wireless USB Keyboard with Touchpad for Raspberry PI
- 1x Sensor Kit and cabling for Raspberry PI (incl. Motion, temperature, light, etc.)

Regarding Mobile Computing and the Internet of Things, the department's Mobile Systems Lab (MoSys Lab) hosts a number of mobile devices ranging from tablets and wearables (smart programmable watches to smart programmable insoles) as well as different general purpose and Ambient Assisted Living sensors (i.e. Motes supporting wireless communication protocols such as Telos B Green and Blue 802.15.4 Motes, MultiTech Conduit 300 Series IoT Programmable Gateway (MTCDDT3AC Series) and Libelium PS485 modbus for Raspberry PI with Libelium RGI to Arduino as well as Waspmode 3G sim card module). Additionally, our laboratories host prototypes developed using Sensing hardware (i.e. Crossbow MDA 100CB, Crossbow Accelerometers, MICA2dot sensor Motes (nesC interface) with control board (nesC interface), Crossbow MIB520CB and Dust Sensor) and Wireless Power Transfer and Monitoring Toolkits (educational). Our laboratories are equipped with different configurable testbed platforms such as Motes' interfaces with enabled Foscam FI9831P IPCam with Proprietary architecture OS (3 nodes) and 3 Galaxy Tab (versions S2, S4, S6) with sensor programmable modules with Station interface (Android OS).

1.3 “The EEC recommends extending the size and extent of the international university network.”

Response/Action: The Department has an extensive list of university collaborations around the world in all aspects of academic work: teaching, research and service. More specifically:

- In teaching: The Department has a collaborative Master degree venture with ITMO University and is in the process of establishing a joint Master degree with Lomonosov University. We also utilize Adjunct Faculty from Universities in Germany, Poland, Japan and Greece.
- In research: Our international University network of collaborations extends to USA (NYU, University of Pittsburgh, Pace University, CSU), Sweden (Chalmers University of Technology), Austria (University of Graz, Technical University of Wien), Spain (Universitat Politecnica de Catalunya), France (University of Nantes), UK (Kingston University) amongst others.
- Regarding service: Our Department collaborates with University professors around the world in the context of advisory service to our programs, as part of the Internal Evaluation Process. External Reviewers/advisors include professors from USA, UK and Brazil.

At the same time, our network of collaborations will continue to grow even further with our substantial involvement in H2020 research projects and the further expansion of our programs.

2. Quality Assurance

Sub-areas

2.1 System and quality assurance strategy

2.2 Quality assurance for the programmes of study

We appreciate the EEC's assessment of this area. We note that **all quality indicators/criteria were assessed as "Compliant"** (amongst the choices of: Compliant/partially compliant/non-compliant).

Positive comments made by the EEC:

- *"The BSc and MSc programs are given mostly by permanent personnel and only a few non-permanent teachers."*
- *"All faculty members hold doctoral degrees in the modules they teach,"*
- *"The department advocates connecting research activities and findings with education. Students are reported to be active in research projects resulting in articles co-authored with students."*

Areas of improvement and recommendations made by EEC:

2.1 *"The graduation statistics indicate delays in the completion of BSc and MSc degrees. The EEC recommends to develop the QA mechanism to include systematic degree program analysis that can reveal possible bottlenecks for timely course and degree completion."*

Response/Action: As the EEC has observed, a number of students are working and therefore follow a part-time mode of study. This indeed causes delays in graduation. However, it should be noted that students in part-time mode are contacted throughout the year, their load is monitored to ensure both that they remain in touch with the program and do not fall behind. Moreover, the Department is already analysing course and degree completion to identify bottlenecks by utilizing a dashboard tool. In addition to the dashboard use, the Department is currently developing a tool that will help us predict the student dropout. We believe that this will help us identify students facing difficulties and prioritize advice so that delays (and/or dropouts) can be avoided. Also, as per the EEC's recommendation, we will assign one faculty member of the Department to each student, to act as academic mentor starting in the Fall semester of 2021. This mentor will meet regularly with the student to monitor his/her progress, offer advice and guidance. It should also be noted that there is an already established process, by which the Academic Advisors identify at the end of the semester all low-performing students (i.e. students with GPA less than 2.0). These students are then contacted by the Academic Advisor assigned to them, and are offered extra help and tutoring hours by the University's Student Success Center.

2.2 *“The department’s SWOT report indicates that bureaucracy as a weakness. The department is recommended to consider streamlining the processes.”*

Response/Action: The sources of this bureaucracy are primarily external to the Department and primarily pertain to internal and external evaluation and accreditation processes. The University is currently working on providing a better centralized support to eliminate any such bureaucracy.

2.3 *“The small Faculty size can be an advantage in terms of collaborations and community spirit. The EEC recommends to develop department level activities to support the computer science community at the university including extra-curricular activities, and connect the faculty members with students.”*

Response/Action: The Department has numerous activities to support the computer science community at the University. Some examples are the yearly game development competition Logipaignion that the Department is co-organizing which is open to all students as well as Google hashcode yearly competition in which our University is a hub and our Department’s students participate each year. In addition, the Department organizes yearly a Seminar Series in Computer Science with speakers from the academia and industry that are open to students and faculty of the University. Moreover, the connection of faculty with students is promoted via the student Orientation Day which is organized by the Department every September for the new students, as well as the yearly Board of Studies meeting held by the Department for all its students and faculty with the aim of hearing student feedback and concerns and discuss issues pertaining to the Department.

Regarding extra-curricular activities, our students are encouraged to become active with the activities organized by our research labs (i.e. AILab, MoSys Lab, Informatics Security Lab). They may also join the Computer Science Club and other cultural, academic, leisure, and sports clubs which are operating at the university and mentored by faculty members. Through the activities which these clubs organize and other exciting events held by the Student Affairs’ Department our students have the chance to experience a more complete student life of multi-cultural, multi-interest and international flavour.

3. Administration

We appreciate the EEC's assessment of this area. We note that **all quality indicators/criteria were assessed as "Compliant"** (amongst the choices of: Compliant/partially compliant/non-compliant).

Positive comments made by the EEC:

- *"The department management and administration services are effectively structured with a number of committees and individual roles supporting the Head of Department."*
- *"The department has a clear and transparent allocation of internal administrative duties and roles."*
- *"The processes for the management, monitoring, evaluation, revision, as well as the introduction of programmes are in line with the Bologna Process Declaration, as clearly indicated in the documentation."*
- *"ECTS credits are consistently associated with the learning activities and outcomes of students throughout the programmes."*
- *"Although many services to the students are available online, direct support is also provided in person. For example, students can use the online platform to register, but they are encouraged to come in person to discuss their choices."*

Areas of improvement and recommendations made by EEC:

None suggested.

4. Learning and Teaching

Sub-areas

4.1 Planning the programmes of study

4.2 Organisation of teaching

We appreciate the EEC's assessment of this area. We note that **all quality indicators/criteria were assessed as "Compliant"** (amongst the choices of: Compliant/partially compliant/non-compliant).

Positive comments made by the EEC:

- *"The department is following the university guidelines for the definition of new programmes. The planning is fully compliant with existing rules and frameworks."*
- *".. the definition of the programme provides a good integration of theory and practice through hackathons, group work and case studies in regular courses as well as several projects."*
- *"The EEC finds that the intended learning outcomes and indicative content of programmes and their courses are compliant with the national and international standard practices including the benchmark EQF."*
- *"The department supports co-production of knowledge and the relationship between research and teaching in various ways including support for conference registrations for both staff and students."*
- *"The teaching, learning and assessment practices are well thought, organised and implemented."*
- *"The low number of student intakes has helped the department deliver their courses with a small number of students in appropriately sized lab rooms."*

Areas of improvement and recommendations made by EEC:

4.1 *"Better communication is required to ensure students are aware of the policies, i.e., complaints and appeals process."*

Response/Action: The Department provides multiple ways by which the students become aware of the policies, including the complaints and appeals process:

- 1) Each student can access online the Student Handbook for their respective program. These booklets are produced by the Department, for each of its programs, and contain all the relevant information that a student may need during their years of study, such as program pathway and short description of courses, advice on registration to courses, grades and ECTS, faculty lists with contact numbers and more. In this report we refer to

all the relevant University policies, as described in the Academic Policies booklet issued by the University.

- 2) Each student has access to the Academic Policies booklet, which is available online and introduced to the student in the Student Handbook described above.
- 3) There is a student Orientation Day for new students, in September, which is organized by the Department. The students are introduced to the faculty of the Department and are presented with the information contained in the Student Handbook.
- 4) In addition, the Department organizes a yearly Board of Studies meeting where students are given the opportunity to raise concerns and discuss with their faculty.
- 5) Finally, the Department Head, Associate Head and Program Coordinator provide all the necessary advice to students, describing the policies and guiding them in case of complaints and appeals.

We will continue to use all these multiple ways to keep our students informed and aware of the relevant policies. In addition, following the EEC recommendation, we will assign one faculty member of the Department to each student, to act as academic mentor starting in the Fall semester of 2021. This mentor will meet regularly with the student to monitor his/her progress, offer advice and guidance.

5. Teaching Staff

We appreciate the EEC's assessment of this area. We note that **all quality indicators/criteria were assessed as "Compliant"** (amongst the choices of: Compliant/partially compliant/non-compliant).

Positive comments made by the EEC:

- *"Student Staff Ratio is excellent and therefore the staffing base seems more than appropriate to deliver the programmes of study."*
- *"The CVs of existing staff demonstrate very good evidence of appointed academic staff having prior and relevant teaching and research experience in higher education institutions and are members of professional organizations. Research expertise and publication records are relevant and consistent to the programmes of study."*
- *"The teaching staff is commendable highly from their students."*

Areas of improvement and recommendations made by EEC:

5.1 *"The current position of the department is not to offer all optional courses at BSc level which defeats the purpose of the offer; this also impacts the student satisfaction."*

Response/Action: The elective (optional) courses included in the BSc pathway are mainly advanced electives which are relevant to the thematic areas and to additional current and emerging trends, beyond the thematic areas. Including these state-of-the-art courses in the curriculum is in line with the Department's mission. However, the offering of an elective course requires a minimum number of student registrations (as per the requirement of the National Agency for Quality Assurance and Accreditation in Higher Education). Therefore, the current selection of elective course offerings is dictated partly by the student interest. Courses that do not attract enough students may not be prioritized. However, our Department has now issued new guidelines to the Academic Advisors who assist in student registrations, so that each student at the end of the second year will indicate the thematic area that they may be interested. This information will be visible on the student record, and the program coordinator will be able to do the necessary planning for offering the advanced 3rd and 4th year electives. We believe that this will be very helpful when planning the schedule of classes and will also increase student satisfaction.

We also believe that as the programs grow, more electives will be offered.

6. Research

We appreciate the EEC's assessment of this area. We note that **all quality indicators/criteria were assessed as "Compliant"** (amongst the choices of: Compliant/partially compliant/non-compliant).

Positive comments made by the EEC:

- *"The CVs of existing staff provide evidence that the academic staff carry out high quality research activities successfully leading to research funding and outputs."*
- *"Research expertise and publication records are relevant and consistent to the programmes of study."*
- *"The department has identified challenging objectives in research, aiming at establishing a strong research profile with regional and international visibility."*
- *"Publications and external funding demonstrate that the department is on track towards these objectives."*
- *"Evidence of high quality research activities, integration of research into teaching, some engagement with industry."*

Areas of improvement and recommendations made by EEC:

6.1 *"Although there is evidence of some research engagement with industry this is an aspect that can be improved."*

Response/Action: The Department has substantial research engagement with the industry through its participation to numerous European projects (which totalled a budget of 32.5M Euro since 2016). An extensive list of industry collaborators on research can be found in the submitted Application for Departmental Evaluation (section D.5) and attached herein as Annex 1. In addition, the Department has close collaborations with the industry through academic programs. Our industry partners are involved in course design/and or delivery (e.g. Expedia, NVIDIA for Data Science), course support (e.g. Google Cloud for the graduate Data Management course), as well as advisory roles to our programs, as part of the Internal Evaluation Process (e.g. Apple, QSecure).

7. Resources

We appreciate the EEC's assessment of this area. We note that **all quality indicators/criteria were assessed as "Compliant"** (amongst the choices of: Compliant/partially compliant/non-compliant).

Positive comments made by the EEC:

- *"Resourcing of the department appears to be on a good level and sufficient for running the educational programs and supporting research activities."*
- *"The SSR (Student-Staff Ratio) is excellent and therefore the staffing base seems more than appropriate to deliver the programmes of study."*
- *"The programs have excellent support from the university IT services, for example cloud services."*
- *"The library facilities meet the expectations and the library services include access to IEEE and ACM digital resources."*

Areas of improvement and recommendations made by EEC:

7.1 *"Online programmes may be a good opportunity for supporting financial sustainability; addressing the need to attract more students to sustain growth."*

Response/Action: The Department offers two online master programs, the latest one (MSc Data Science) launched in Fall 2020 already has an impressive number of student intake. We believe that, due to the pandemic and the exposure of students and faculty to online teaching, there will be further interest for online programs, as students have become accustomed to the idea and concepts of online learning. In 7.2 below we address the action plans to attract more students.

7.2 *"Lack of a risk assessment plan for low student intake. The EEC recommends the development of an action plan leading to an increasing number of students over the next two-three years."*

Response/Action: The Department has a very good student intake for the BSc Computer Science program. The under-reaccreditation programs MSc and PhD Computer Science have the potential of attracting many more students. The following action plan is established to further increase the number of students in all levels of education, undergraduate and graduate. More specifically, the action plan includes:

- 1) Organized visits to high-schools (as well as hosting visits by high-schools) where faculty members and current BSc students (or alumni), will deliver hands-on workshops on exciting Computer Science topics. This has already been pursued in the last years (prior to the pandemic) and we will be intensifying these efforts in the coming years. The Department already participates yearly to the Handshake with ICT which is an event

- organized the by the University and where the Department delivers workshops on Cyber Security, Artificial Intelligence, Data Science and Computer Graphics.
- 2) Yearly participation in the Computer Science Student Conference in Greece where faculty and alumni deliver workshops to high-school students in areas such as Cyber Security and Data Science. The Department has already participated in the last two conferences (the 10th and 11th).
 - 3) Organizing hackathons and other competitions that promote the Computer Science field. For example, our Department co-organizes yearly the Logipaignion game development competition which is open to students (both high-school as well as University students through different tracks). Our University through our Department is also serving as a hub every year in the Google hashcode competition. Our Department plans to further organize some hackathon competitions on hot topics such as Cyber Security.
 - 4) Delivery of webinars by faculty with active participation from current students and alumni. The webinars are live-streamed on youtube and are open to all. These webinars take many forms: a) They present the Department and its programs, b) they can talk about Computer Science/Data Science jobs and career prospects, c) they present a particular subject or project with participation from students (current and past). This past year, the Department has delivered 4 such webinars. Two of these webinars involved students: One seminar on hacking was delivered by an MSc CS Alumni and the other seminar on Data Science was delivered by two current BSc CS students along with their professor, who presented their term project on the Data Science course. More webinars are planned in the next couple of years.
 - 5) We also plan to offer a number of scholarships per program. The University is already offering scholarships based on merit and financial needs. We plan to request an additional number for the next 2-3 years, especially in view of possible financial problems that may have arisen to a number of families affected by the pandemic.
 - 6) Sponsoring local competitions that promote the MSc concentrations. The University was a sponsor for the 4th Cyprus Cyber Security Challenge (CCSC) organized by the Cyprus Computer Society in April 2021.

B. Conclusions and final remarks

We would like to thank the External Evaluation Committee (EEC) for their professional and thorough work during the online evaluation of the Department of Computer Science and three of its programs on April 8-9, 2021. We would also like to express our appreciation for the collegial and constructive approach with which they conducted their evaluation.

We welcome the EEC's extremely positive evaluation of our Department and the final conclusion which states: ***“Based on the examination and evaluation of the accreditation materials and the remote site visit, the EEC concludes that the required standards are met.”***

We would like to address some further remarks made by the EEC in the “Conclusions and final remarks” (section D):

- 1) EEC remark: *“The External Evaluation Committee (EEC) reviewed and examined the accreditation report and materials provided by the University of Nicosia pertaining to the Department of Computer Science and its four-degree programs. The EEC evaluated the department and three of its programs that had not been previously evaluated and accredited: the BSc, MSc and PhD programs in Computer Science.”*

Response: We would like to note and clarify that all three programs under evaluation in this assessment have been previously evaluated and accredited by the Evaluation Committee for Private Universities - ECPU (which was the responsible body prior to the introduction of CYQAA). Hence, all programs in this evaluation were submitted for re-accreditation.

- 2) EEC remark: *“The department should analyze the degree programs for identifying the root causes of the slow graduation process. Many of the students are working at the same time that explains why the completion of degrees can take more time than anticipated. The department is encouraged to analyse course and degree completion in more detail and mitigate any identified bottlenecks.”*

Response/Action: This remark was raised in Section 1 and our response is given in point 1.1 above.

- 3) EEC remark: *“Some courses can be improved in terms of supporting the development of practical skills associated to conceptual and theoretical content: a continuous effort to balance between theory and practical skills in some courses is advisable. The distribution between elective vs major courses can also be reconsidered periodically.”*

Response/Action: Our courses also emphasize practical skills and the development of such skills is actually stated in the Aims and Objectives of the BSc Computer Science program. As the EEC noted in Section 4 of the external evaluation report: *“..the definition of the programme provides a good integration of theory and practice through hackathons, group work and case studies in regular courses as well as several projects.”* Regarding the recommendation for reconsidering periodically the distribution between elective and major courses, this is indeed our standard practice every 4 years, in view of the next accreditation.

- 4) EEC remark: *“Some of the optional courses may not be available to students at a given semester or year. The EEC recommends the alignment of course demand from the students, course planning and course selection.”*

Response/Action: This remark was raised in Section 5 and our response is given in point 5.1 above.

- 5) EEC remark: *“The computer laboratories appear adequate for the teaching purposes; however, the extent of availability of the infrastructure to Computer Science courses was ambiguous. The department is recommended to clarify which of the laboratories are open to taught students.”*

Response/Action: The following is the list of computer laboratories used and open to taught students:

- Four main labs used in most programming courses: B101, B111, B113 and A20. These are regularly updated and upgraded to meet the needs of the students.
- Dedicated Computer Science laboratory for use by the Department’s students only: B110. This CS lab is equipped with iMacs and PCs as well as the MoSys Lab infrastructure described in point (6) below.
- Dedicated Virtual Reality Lab: This lab is a state-of-the-art virtual, augmented and mixed reality technologies’ facility. It includes two independent immersive VR installations and facilities for teaching including 16 high-end workstations. This lab is utilised by our students taking the Virtual Reality Game Development courses which are Major Elective courses in BSc Computer Science.

In addition, MATLAB is available to students (and faculty) to use from home, since there is a University-wide license, allowing all UNic students to download and install the latest version (including all packages, such as Machine learning and AI) on their own personal computers.

- 6) EEC remark: *“The mobile computing and the Internet of Things infrastructure could be more comprehensive for state of the art research activities.”*

Response/Action: Our faculty’s research projects enrich the infrastructure for taught courses in Mobile Computing and the Internet of Things. The department’s Mobile Systems Lab (MoSys Lab) hosts a number of mobile devices ranging from tablets and wearables (smart programmable watches to smart programmable insoles) as well as different general purpose and Ambient Assisted Living sensors (i.e. Motes supporting wireless communication protocols such as Telos B Green and Blue 802.15.4 Motes, MultiTech Conduit 300 Series IoT Programmable Gateway (MTCDT3AC Series) and Libelium PS485 modbus for Raspberry PI with Libelium RGI to Arduino as well as Wasp mode 3G sim card module). Additionally, our laboratories host prototypes developed using Sensing hardware (ie. Crossbow MDA 100CB, Crossbow Accelerometers, MICA2dot sensor Motes (nesC interface) with control board (nesC interface), Crossbow MIB520CB and Dust Sensor) and Wireless Power Transfer and Monitoring Toolkits (educational). Our laboratories are equipped with different configurable testbed platforms such as Motes’ interfaces with enabled Foscam FI9831P IPCam with Proprietary

architecture OS (3 nodes) and 3 Galaxy Tab (versions S2, S4, S6) with sensor programmable modules with Station interface (Android OS).

- 7) EEC remark: *“A formal internal progress monitoring and assessment process involving academic members not in the supervisory team can be considered to add more robustness to the programme. Lack of a structured and annually produced monitoring report pertaining to student progression, attainment and other key performance indicators relating to the studies.”*

Response/Action: This remark refers to the PhD in Computer Science program as it refers to the “supervisory team”. The involvement of academic members who are not in the supervisory team for yearly monitoring PhD students is not in line with the University Doctoral Degree regulations. An integral part for the final assessment of a PhD (final oral examination (viva) for assessing both the written submission and the candidate) is the participation of an external examiner from another University/Research Institution who is invited for this purpose. This point is also addressed in the respective response to the PhD program

Concluding, we would like to thank once more the External Evaluation Committee for their valuable feedback and their **extremely positive** evaluation of the Department of Computer Science, with **all sections of quality indicators being assessed as “Compliant”** (amongst the choices of: Compliant/partially compliant/non-compliant).

C. Higher Education Institution academic representatives

<i>Name</i>	<i>Position</i>	<i>Signature</i>
Dr George Gregoriou	Dean School of Sciences and Engineering	
Prof Athena Stassopoulou	Head - Department of Computer Science	
Prof Constantinos Mavromoustakis	Quality Assurance and Faculty Member	
FullName	Position	
FullName	Position	
FullName	Position	

Date: 08 June 2021



Department of Computer Science University of Nicosia

ANNEXES

This document accompanies the response document 300.3.2 (Higher Education Institution's response - Departmental) submitted by the University of Nicosia to the CYQAA

ANNEX 1

International Collaborations

The Department of Computer Science has developed important partnerships with international organizations and Universities. Listed below are some of the most important collaborations of the recent years. The list is taken from our submitted Application for Departmental Evaluation (Computer Science - document 200.3, Section D.5):

- Technion, Israel
- New York University, USA
- TU Dortmund, Germany
- Expedia, Switzerland
- National and Kapodistrian University of Athens, Greece
- Dept. of Applied Informatics and Multimedia department at the Technological Educational Institute of Crete (TEIC), Research and Development of Telecommunication Systems Lab. "PASIPHAE".
- Department of Electrical, Computer, Software, and Systems Engineering, Director, Security and Optimization for Networked Globe Laboratory (SONG Lab), Embry-Riddle Aeronautical University, USA.
- Department of Computing, Bradford University, UK, MoCoNet Research group,
- Department of Marketing and Operations Management, University of Macedonia,
- Department of Multimedia Engineering, Graduate School of Information Science and Technology, Osaka University, Japan
- France Telecom Research & Development, Paris, France
- Department of Informatics. Instituto de Telecomunicações University of Beira Interior, Portugal and University ITMO, St. Petersburg, Russia,
- University Politehnica of Bucharest, Bucharest, Romania.
- FINT co.uk, London, UK
- Viotech Communications SARL, Versailles, France
- Thales Alenia Space S.A., France
- TeamCast, Saint-Greoire, France
- Telefonica Investigación y Desarrollo, Madrid, Spain
- Philips High Impact Innovation Centre, Leuven, Bergium
- TELINT, London, UK
- Thomson Video Networks, Cesson Sevigne, France

- Kingston University London, UK
- University of Bordeaux (Université Bordeaux), Telecommunications Dept., France
- Centre National de la Recherche Scientifique – LaBRI, France
- University of Nantes, Department of Computer Science, France
- Universitaet Klagenfurt, Information Technology, Austria
- National Institute of Telecommunications, Warsaw, Poland
- Pace University, New York, USA
- Warsaw University of Technology, Warsaw, Poland
- California State University (CSU), USA
- Department of Computer Science and Engineering, Chalmers University of Technology, Sweden
- IMDEA Networks Madrid, Spain
- Distributed Systems Group, Technical University of Wien, Austria
- Athena Research and Innovation Center (Greece)
- StudioAG, Italy
- Motivian, Bulgaria
- Al Zayed University, UAE
- University of Graz, Austria
- Otto-von-Guericke University Magdeburg, Germany
- Universitat Politecnica de Catalunya, Spain
- University of Piraeus, Greece
- StudioAG, Italy
- INNO TSD, France
- Dept. of Mathematics, West Chester University, West Chester, PA, USA
- Institute of Mathematics, National Academy of Sciences, Ukraine
- University of Patras
- Aristotle University of Thessaloniki
- University of Peloponnese
- Hellenic Open University
- MGIMO
- Lomonossov
- ITMO
- University of Oviedo Spain
- Padova, Italy
- Zagreb University



- Western Sydney University
- Vienna University of Applied Arts
- University of Lapland
- University of Pecs
- Brno University
- University of Westminster
- Birkbeck College
- Open University of Catalunya

