

Doc. 300.3.2

Date: 20/01/2021

Higher Education Institution's Response

(Departmental)

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

Programme 1

In Greek:

Διδακτορικό στην Πληροφορική

In English:

Ph.D. in Computer Science (240 ECTS)

Programme 2

In Greek:

Μάστερ στην Επιστήμη της Πληροφορικής

In English:

Master in Computer Science (3 Semesters, 90 ECTS, Postgraduate Program)

Programme 3

In Greek:

Μάστερ σε Προηγμένες Τεχνολογίες Πληροφορικής (Επαγγελματικό Πρόγραμμα)

In English:

Master in Advanced Information Technologies (Professional Programme) (3 Semesters, 90 ECTS, Postgraduate Program)



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.*

1. Department's academic profile and orientation

Sub-areas

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

Regarding 1.1 Mission and strategic planning

Two out of three quality indicators/criteria for which the EEC has given a score of 3 (all other criteria in all areas and sub-areas have been given a score of 4 or 5) are the following:

- 1.1.2 The Department has developed its strategic planning aiming at fulfilling its mission
- 1.1.3 The Department's strategic planning includes short, medium-term and long-term goals and objectives, which are periodically revised and adapted.

The EEC justifies the above scores as follows:

“However, from the analysis of the paperwork we remark that the Department's mission statement was not fully clear and the strategic planning did not appear to be fully systematic. The Department is recommended to focus on strategy development given the current research and teaching competence areas while considering future recruitments.”

The EEC further recommends:

“The staff number is sufficient for the present offer however it is optimized to the minimum. This is a considerable risk for the University. At the present the Department is in a very fragile state: if staff leave the Department pursuing other career paths or retire the Department may have significant challenges in delivering the present programmes. It is recommended that the university increases the number of staff so as to create overlaps between competences in a way to avoid fragilities in future.”

The Department's response:

The University of Cyprus has recently reformulated its strategic plan for 2021-2025 and has called upon all its units, including academic departments, to realign their strategic plans with the University's plan. The Department of Computer Science will therefore update its strategic plan in view of the University's strategic goals and will ensure that its mission can be fulfilled by clearly aligning its strategy (through short, medium-term and long-term goals and objectives) with its mission that will also be clarified.

A critical short-term objective is the filling of the two new academic positions that have been allocated to the Department and are expected to be ‘unfrozen’ and announced in 2021. Both positions are at the rank of Lecturer/Assistant Professor and can bring important new blood to the Department raising its academic capacity from the current 21 members to 23 members. The specializations for the two new positions have not been decided yet. The Department has noted the recommendations of the EEC regarding the minimum numbers per Thematic Area. However, the discussion will take onboard the commencement, in September 2021, of the new MSc in Data Science as well as a new MSc (Masters in AI for Careers in EU), for the development of which a proposal was submitted to EE under Connecting Europe Facility in the field of Telecommunications (CEF Telecom) Digital Skills, and has been approved for the funding of 665,828 EUR. If all goes well (including its

evaluation and accreditation by the CYQAA) the new MSc in AI for Careers in EU will commence in September 2022.

According to the new FTE algorithm of the University, the operational adequacy of the Department of Computer Science (given its current teaching obligations) corresponds to 27 full-time academic positions. Thus the Department is 4 academic positions short for attaining its operational adequacy, and as such it expects and hopes that these additional positions will be made available to it in the very near future. Such future positions will be promptly and fully utilized with a view to creating overlaps with existing competences in a way to avoid fragilities in the future.

Regarding 1.2 Connecting with society

The EEC states: “The Department is engaged in several outreaching activities including the involvement of schools. Further, actions to improve gender and ethnic equality in student enrolment are recommended.”

The Department’s response:

Due to the pandemic, the Department’s efforts to improve gender and ethnic equality in student enrolment with respect to face-to-face activities (school visits, meetings with teachers, etc.) are postponed until the overall situation is back to normality. For example, back in March 2020 the Department was in contact with the members of its first cohort of graduates (the 1996 graduates), almost entirely composed of females who in their majority are informatics school teachers, with a view to organizing a reunion leading to a think tank for increasing the interest and participation of secondary school female students in informatics. This action is expected to be resumed within 2021. In addition, the Department is responding positively to all requests from school Heads to establish collaboration links with them. For example, the Head of Latsia Lyceum has requested the assistance of the Department in increasing student interest in informatics and views have been exchanged focusing on gender and ethnic equality. Standard activities of the Department such as the annual Information Day and the Annual Computer Game Development Competition (Logipaignion) are continuing but for the time being these are suitably adapted as a result of the pandemic. The next Information Day will be carried out remotely on the 20th February 2021. Last but not least the Department has had preliminary discussions and exchanges with the Ministry of Education regarding the possibility of changing the entrance criteria of its undergraduate programme. What is being discussed is to keep as mandatory subjects, the three subjects, Modern Greek (mandatory for all undergraduate curricula), advanced Mathematics and Informatics, while leaving the fourth subject optional from within the various science subjects, economics/finance, or accounting. Such a change is likely to broaden the pool of students interested in pursuing studies in computer science, of either gender and/or ethnic minorities.

Regarding 1.3 Development processes

The third quality indicator/criterion for which the EEC has given a score of 3 is the following:

- 1.3.3 The Department applies an effective strategy of attracting high-level students from Cyprus and abroad.

The EEC comments:

“The Department is clearly performing well and has adequate procedures to guarantee quality. It would be very important for the future development that a larger fraction of the Department income would be re-invested in the Department itself. It appears that at the moment the Department is an important source of income for the university.

The Department does not have many international staff members, students or visitors.”

The EEC recommends the following:

“The faculty size should be increased to maintain the present offer and avoid fragilities especially related to a number of members of staff that will go to retirement soon.”

Given the current trend towards internationalization in education and research it is highly recommended to increase international faculty recruitment and through this support education by expanding the course portfolio given in English. This development is expected to result in higher numbers of international students for M.Sc. and Ph.D. levels.

There is no fixed set of courses given in English. We recommend developing the English language course offering. This will support international incoming students and also offer possibilities for visiting lecturers.

The number of female students has decreased significantly in recent years with the lower number of female students in 2019. While being low the current share of female students at the Department is comparable to the situation in Computer Science in Europe. Targeted actions to improve gender and ethnic equality in student enrolment are recommended.

The Department’s response:

The Department is in full agreement with the recommendation of the EEC that “a larger fraction of the Department income would be re-invested in the Department itself”. More specifically, the Department has already expressed in writing, to the administration of the University, the strong view that the previous formula regarding the distribution of revenue from graduate fees, back to the Departments, should be reinstated.

Regarding the retirement issue, which is definitely a major threat to the Department, as no less than six senior members of its staff will retire within the next seven years, a contingency plan should be agreed and set in action, as the Department has already requested in writing from the University administration. The new FTE algorithm agreed upon is an important step in the right direction as it gives transparency and concrete arguments for the University when it claims new academic positions from the state or the un-freezing of vacated positions. The teaching obligations of the Department in the foreseeable future, not only will not decrease, but are expected to increase due to the new, specialized MSc programmes mentioned above. Thus its operational adequacy will continue to be (at least) 27 full-time academic positions. A viable contingency plan should aim to reach the given operational quota within the next 2-3 years and to maintain throughout the existing quota that currently is 23 academic positions. In this respect a foreseen vacancy due to retirement should be handled promptly meaning that the position should be kept in the Department (adhering to whatever budgetary process the state will have in operation), and announced so that the new recruitment can take up the position as soon as the position is vacated, or at least not more than a semester after.

Regarding international faculty recruitment and developing the English language course offering, it is stated that the new MSc in Data Science will be taught in English while the planned MSc in AI for Careers in EU will include multilingualism (the various modules will be developed in all the languages of the consortium). Through the latter, and in particular the collaboration network that will be set up, structured student mobility and the involvement of international faculty will be achieved. Moreover, every new academic position of the Department is announced internationally and this practice will continue. However, efforts to recruit more international faculty as academic members of the Department will be enhanced and facilitated by the increased English language course offering, primarily in the context of the new Master programmes.

Targeted actions to improve gender and ethnic equality in student enrolment are discussed above.

2. Quality Assurance

Sub-areas

- 2.1 System and quality assurance strategy
- 2.2 Quality assurance for the programmes of study

The EEC comments that “Students are provided with a world-class quality of programmes of study and adequate infrastructures.” and that “Quality assurance is part of the operations at the Department with well-defined committees and processes.” The EEC recommends “Increasing the resourcing of the Department to maintain and improve the present quality of the education delivered and to make the Department more robust and readier for future challenges.”

The Department’s response:

The key resources of the Department are its human capital and information infrastructures. With respect to human capital relevant actions are mentioned above. With respect to infrastructures, including teaching laboratories, their upgrading to keep up with developments is necessary for maintaining and improving the present quality of the education delivered. The Department is already investing much of its own revenue for upgrading its infrastructure, at the same time utilizing whenever possible open source tools. However, if a higher percentage of the revenue generated by the Department from graduate tuition fees, were to be returned to the Department (as was the procedure previously), this would enable the Department to increase the quality of its infrastructure, also incentivizing it to expand the particular source of revenue (e.g. through international students).

As far as infrastructures are concerned, the University has recently invested millions of euros in establishing a virtualized computing infrastructure and an HPC cluster. The first is suitable for general needs, e.g. to support simple research and teaching activities. The latter is targeted for more serious research, which invariably trickles down to the course content.

3. Administration

The EEC recommends to continue developing instruments for gathering student feedback and ideas regarding the development of the degree programs and the Department.

The Department's response:

The Department welcomes the decision of the University to gather feedback from all final-year, undergraduate and postgraduate, students, on the quality of their programmes of study in totality. This decision will be set into action as from 2021. So far what is being institutionalized is the gathering of student feedback at the end of each semester on the individual modules that each student attends every semester. The new collective feedback at the level of programmes is expected to be very useful in further improving the quality and learning outcomes of the CS curriculum in its entirety, as it will draw attention on the interconnections and interoperability of the various modules, showing whether the programme is, or is not, more than the sum of its individual modules. Thus the Department will pay due attention to this higher level student feedback, that from now on will be solicited at the end of each academic year, and will act upon it as it has been doing so far for the module-based feedback, solicited at the end of each semester. In addition, the Department is working towards the development of its own graduate tracking system, not only for keeping in touch with its growing community of graduates, that at the end of 2019 numbered 1700 members, but also for measuring the societal impact of its education provision. Moreover, as the realities of online and blended teaching and learning, enforced by the pandemic, are likely to stay for some time yet, the QA Committee of the University has conducted a study gathering feedback from both students and teaching staff on various aspects of this new state of affairs. This feedback has been analyzed giving important pointers on what is considered good, not so good, or bad, by students and teachers alike, so that the given processes can be improved. The Department aims to continue capitalizing on good aspects of online learning, when the pandemic is gone. Lastly, an integral aspect of the newest module of the undergraduate curriculum, namely CS500 Placing Students in Organizations, that represents structured internships and is considered a key anchor of the Department with the industrial world, is the gathering of feedback from the participating students at the end of their placements. So far 41 students have participated in such industrial internships, where physical presence of the students in the organizations is required (19 in the summer of 2019 and 22 in the summer of 2020). All students were selected through an open, competitive procedure, and all completed their internships successfully. The feedback obtained from them has been instrumental in improving the whole process and this feedback gathering will continue. In addition, the feedback gathering process per se, will be improved gradually focusing on the viability of the internship as a vehicle, aiding the enhancement/acquisition of soft skills by the students.

4. Learning and Teaching

Sub-areas

4.1 Planning the programmes of study

4.2 Organisation of teaching

The EEC states that “The learning and teaching practices at the Department are in line with the expected world-standards in this sector.” The EEC recommends that “Staff numbers should be increased to avoid future criticalities.” Moreover, “It is highly recommended to increase international faculty recruitment and through this support education by expanding the course portfolio given in English. This development is expected to result in higher numbers of international students for M.Sc. and Ph.D. levels.”, and “It is recommended to establish an Industry Advisory Board for systematic and regular feedback from the industry.”

The Department’s response:

The Department, either through direct MoUs, or through University agreements, has created an Industrial Affiliates program through which it promotes its ties with industry. One of the objectives of the program is to gauge the market trends and to receive systematic feedback. We have decided to revisit the program and validate its terms of reference. In that scope we will formally establish an Industry Advisory Board.

The other recommendations are addressed above.

5. Teaching Staff

The EEC states that “The teaching staff is excellent, dedicated and well-selected and qualified. The Department is efficient providing high quality teaching and limited resources.” It also states that “There is some reliance on external staff that is not recommended on the longer run, however it brings in the Department information about industry practices. Increase in the number of permanent academic staff is recommended.”, clarifying that “At the present the Department is in a vulnerable situation in terms of the teaching staff size that should be addressed by investing in new staff members and ensuring continuity given the near-future retirements.”

The Department’s response is given above.

6. Research

The EEC recommends: “It is recommended to increase staff number hiring on research directions that are already present in the Department so as to create thematic research groups. This will also provide a more robust structure for teaching (not relying on a single member of staff) and for research (creating a collaborative environment). It is also recommended to consider expansion of some areas that are currently underrepresented such as financial computing and the digital economy. These are not topics that will not only attract students but will also create synergies with an industry and government sector that is presently emerging in Cyprus.”

The Department’s response:

The above recommendation of the EEC will be taken on board when the Department reaches its final decisions regarding the specializations for the two new academic positions (expected to be announced in 2021) as well as the remaining four academic positions that the Department needs to be allocated, in the very near future, in order to reach its operational adequacy (on the basis of the new FTE algorithm) given its present teaching obligations. With respect to the foreseen retirements within the next 5-7 years, tentative decisions will also be made on the possibly revised or even new specializations to be sought.

7. Resources

The EEC states:

“The department has adequate resources; however, it is in a fragile situation from the resourcing point of view and additional investments appear to be necessary. The university is recommended to consider allowing the Department to use a larger fraction of the income it produces for investing in areas that critically need expansion and consolidation.”

“ . . it is strategic to invest in this Department.”

“ . . the reliance on single members of staff in critical education and research areas is risky and expanding these areas creating research will be a recommendable strategic move. The Department is producing outcomes that justify this expansion and it is certainly able to increase student numbers in order to sustain this expansion.”

The Department has already responded to the above recommendations.

B. Conclusions and final remarks

The Department of Computer Science expresses its sincere thanks to the EEC for the in-depth evaluation of the Department and its postgraduate programmes, and the interesting discussions and insightful exchanges that took place during the two-day online meetings with staff and students. The Department fully agrees with the recommendations of the EEC, some of which are in complete alignment with the Department's own claims to the University administration and its supporting arguments, and has already started implementing those recommendations that are within its sphere of responsibilities. However, the acquisition of new academic positions is not within its power, and in fact it primarily rests within the power of the state, since the University of Cyprus is a state University. The Department also expresses its sincere thanks to the CYQAA and the officer supporting the whole evaluation process for their professionalism and for ensuring the smooth running of the evaluation process from start to finish.

C. Higher Education Institution academic representatives

<i>Name</i>	<i>Position</i>	<i>Signature</i>
Elpida Keravnou-Papailiou	Chair of Department of Computer Science	
FullName	Position	
FullName	Position	
FullName	Position	
FullName	Position	
FullName	Position	

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