

Doc. 300.1.3

Date: .....

# Feedback report from EEC experts

Higher education institution:  
University of Nicosia

Town: Nicosia

Programme of study (Name, ECTS, duration, cycle)

**In Greek:**

Επιστήμη Δεδομένων (4 έτη, 240 ECTS, Πτυχίο)

**In English:**

Data Science (4 years, 240 ECTS, Bachelor of Science)

Language of instruction: English

Programme's status

**New programme: X**

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 and 2016” [N. 136 (I)/2015 and N. 47(I)/2016].

## A. External Evaluation Committee (EEC)

<i>Name</i>	<i>Position</i>	<i>University</i>
Giorgos Longinos	Student	University of Cyprus
Jordi Conesa i Caralt	Associate Professor	Open University of Catalonia
Konstantinos Stefanidis	Associate Professor	Tampere University
Yannis Theodoridis	Professor	University of Piraeus
Philippe Bonnet (chair)	Professor	IT University of Copenhagen

## B. Guidelines on content and structure of the report

*The EEC based on the external evaluation report (Doc.300.1.1) and the Higher Education Institution’s response (Doc.300.1.2), must justify whether actions have been taken in improving the quality of the programme of study in each assessment area.*

## 1. Study programme and study programme's design and development (ESG 1.1, 1.2, 1.8, 1.9)

### EEC's recommendations and HEI's response

**1.1:** *“Students should learn how to combine their computer science and mathematics skills with domain knowledge in the context of a project, before the final year project. A recommendation could be to make a “project in data science” course mandatory in the second year of study.”*

Response/Action: A course COMP-248 “Project in Data Science” of 6 ECTS has now been added as a mandatory course in the second year of study. This course will allow students to exploit and extend the knowledge and skills obtained in their studies (so far) in a domain of their choice. This includes, but is not limited to, Business, Medicine and Biology, Engineering, and Education. To retain the program total of 240 ECTS, the minimum ECTS from the Major Electives has decreased by 6 ECTS. The updated program structure is shown in Table 1 in Annex 1 of this document. The updated program pathway is shown in Annex 2 of this document.

It should also be noted that we have renamed the course COMP-449 “Practice and Experience in Data Science” to be in line with the specifications of the Industry Liaison Offices that operate in Republic of Cyprus. The new name for the COMP-499 course is “Industry Placement in Data Science” (shown in Table 1, Annex 1).

**1.2:** *“We suggest to move COMP-370 Algorithms course earlier in the curriculum because it is a foundation for a major part of the programme”.*

Response/Action: COMP-370 Algorithms course has now moved from year 3 (6<sup>th</sup> semester) to year 2 (4<sup>th</sup> semester). As a result COMP-242 Data Privacy and Ethics as well as COMP-340 Big Data have now moved to 5<sup>th</sup> and 6<sup>th</sup> semester respectively, to accommodate the recommended COMP-370 Algorithms semester change. The updated semester breakdown is shown in Annex 3 of this document.

**1.3:** *“We strongly suggest that the department of computer science, or the school of engineering, takes ownership of the technical writing course (now BADM-332). We recommend that bridges are established between the storytelling aspects of the data visualization course and the technical writing course.”*

Response/Action: We agree with the recommendation and we address it with the suggested change: There will now be a specific section of BADM-332 Technical Writing offered only to the School of Science and Engineering students (which includes the Data Science students). The assessment will be customized towards the Science and Engineering disciplines. This customization will allow COMP-342: Data Visualization to capitalize on the storytelling aspects of BADM-332 and provide a more in depth introduction to communicating data analysis results to intended audiences.

**1.4:** *“The fact that courses between computer science and data science BSc programmes are shared poses a problem in terms of how these courses can be kept up to date, without too much overhead. We recommend that UNIC takes maximum advantage of the existing rules and continuously updates as many courses as possible, with a special focus on the shared courses.”*

Response/Action: All courses offered by the Department of Computer Science are constantly updated to reflect current and emerging trends, to ensure they are always up-to-date and relevant. Updates to the courses are implemented to the extent that is in compliance with the CYQAA. Having said that, we would also like to clarify that the emphasis in our course syllabi is on algorithms, techniques, models and not on specific software which continuously changes in a constantly evolving ICT field. This provides our faculty with the flexibility to update their courses by accompanying the theoretical data science foundation with current software tools. Hence, we minimize the risk of our courses becoming outdated while remaining in compliance with the CYQAA guidelines.

### EEC's final recommendations and comments

The actions described are a significant improvement of the proposed program.

## 2. Teaching, learning and student assessment (ESG 1.3)

### EEC's recommendations and HEI's response

**2.1:** “*It was not clear how students are encouraged to take an active role in creating the learning process.*”  
Response/Action: We would like to clarify that students take an active role in all academic decisions including the development of the learning process. This is achieved through the following student memberships to a number of academic bodies: a) The Department of Computer Science Council has three elected student representatives who are voting members to all Departmental decisions, including the proposal of the introduction of new programs, structure (program pathway) design, course descriptions (syllabi) and learning outcomes etc., b) The three Department Council representatives are also chairing the Department’s “Student Wellness Committee” which is responsible for providing feedback to the curriculum and liaising with the rest of the students, c) There is one student member in the Internal Team of Reviewers who evaluate the program 2 years after its accreditation, as per the University regulations regarding the Internal Program Evaluation Process (IPEP), d) There is one student representative who is a member of the Department Quality Assurance Committee. Finally, e) the Computer Science Department holds yearly Board of Studies meetings where all Department of

Computer Science students are invited to provide feedback to faculty and raise any concerns regarding their programs of study.

Moreover, it should be noted that, based on University guidelines, courses are structured in such a way so as to ensure interactivity between (a) students and faculty, (b) students and course materials, and (c) students and their classmates, and to encourage students' active participation in the learning process. This is achieved through the use of various activities, assessments and communication tools, collaborative projects etc. The effective use of these enhances students' performance and has a positive impact on the successful delivery of the course.

**2. 2:** *“It is important that students’ different abilities in computer programming are considered seriously through some preparatory workshops.”*

Response/Action: We would like to clarify that the first programming course (COMP-111 Programming Principles I), which is compulsory for the Data Science program, assumes no prior knowledge of programming. Hence the preparatory workshop is not needed.

**2. 3:** *“It is not clear whether people outside of UNIC are involved in the assessment of learning outcomes, especially during the defense of the final project thesis. The EEC highly recommends it.”*

Response/Action: Regarding the involvement of people outside of UNIC in the assessment of learning outcomes, we would like to clarify that there is an Internal Program Evaluation Process (IPEP) which includes an External Team of Reviewers. The IPEP is initiated 2 years after the accreditation of the programme and the External Team of Reviewers include one faculty member from another University who is an expert in the programme area and one industry expert.

Regarding the inclusion of the external examiners in the defense of the final year project thesis of the undergraduate degree, as with most Universities, this is not the common practice.

### EEC's final recommendations and comments

Overall, the actions proposed are appropriate. We have flagged the risks linked to students' diverse abilities in programming. We acknowledge that a preparatory workshop might not be needed. The risk must however be mitigated throughout the program.

### 3. Teaching Staff (ESG 1.5)

#### EEC's recommendations and HEI's response

**3.1:** *“To increase the visibility and internationalization of the programme, recognized visiting professors can be invited for giving lectures of specialized topics.”*

Response/Action: The Department has strong collaboration links with renowned professors in Data Science worldwide and plans to utilize these collaborations for invited lectures on specialized topics, during the Computer Science Seminar Series which the Department runs every Spring.

**3. 2:** *“If the new programme is accepted, and given the current workload of the teachers, they should get rid of part of their existing teaching load, so as to have a reasonable amount of teaching hours and available time for research.”*

Response/Action: There have already been two recent hirings of Data Science professors who are currently utilized by the department to teach non-specialized, basic Computer Science courses. When the new program is accepted, we plan to remove these general CS courses from the specialized faculty so that they will devote their normal load to Data Science courses. This will also be the case with any other Data Science teaching faculty on the program. New hirings will be necessary in order to undertake the general CS courses.

#### EEC's final recommendations and comments

The responses are appropriate.

#### 4. Students (ESG 1.4, 1.6, 1.7)

##### EEC's recommendations and HEI's response

4.1: “The EEC is concerned regarding a potential overuse of the special academic admission.”

Response/Action: By definition, the special academic admission is used in a few special cases. We appreciate the concern of the EEC and we want to assure the EEC that the follow-up procedures (monitoring) safeguard the smooth progression to the next stage. These procedures include less workload for the students (i.e. fewer number of courses) and continuous monitoring of the student performance throughout the probation period.

##### EEC's final recommendations and comments

The response is appropriate. We have flagged the risk of overuse of special academic admission. This aspect will have to be carefully considered when the program is evaluated again.

#### 5. Resources (ESG 1.6)

##### EEC's recommendations on the external evaluation report

5.1: “The

equipment in the laboratories is enough for the purposes of the program, but an upgrade would be ideal to improve the students’ experience.”

Response/Action: We acknowledge the Committee’s assessment that the equipment in the laboratories is “enough for the purposes of the program”. We would also like to add that the Department is updating both software and infrastructure on a yearly basis. The budget requested for 2019-2020 already includes items that will be dedicated to our Data Science programs and research. The relevant budget request, which was already approved, is shown in Annex 4.

### EEC’s final recommendations and comments

The response is appropriate.

### C. Conclusions and final remarks

*The EEC must provide constructive conclusions and final remarks, with emphasis on the correspondence with the EQF.*

The responses and proposed actions from UNIC are serious, significant and appropriate.

### D. Signatures of the EEC

Name	Signature
Philippe Bonnet (chair)	
Konstantinos Stefanidis	
Yannis Theodoridis	
Jordi Conesa i Caralt	

Date: ...2/11/2019.....