

Doc. 300.1.2

Higher Education Institution's Response

Date: Date.

- **Higher Education Institution:**
University of Cyprus

- **Town:** Nicosia

- **Programme of study**
Name (Duration, ECTS, Cycle)

In Greek:

Magister Scientiae in Artificial Intelligence

In English:

Magister Scientiae in Artificial Intelligence

- **Language(s) of instruction:** English

- **Programme's status:** New

- **Concentrations (if any):**

In Greek: Concentrations

In English: Concentrations



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 300.1.1/2 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.*
- *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 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.300.1.1 or 300.1.1/2 or 300.1.1/3 or 300.1.1/4).*
- *In case of annexes, those should be attached and sent on a separate document.*

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

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

Summary of areas of improvement and recommendations raised by EEC:

1. The EEC suggests that when refining the design of the program in the future **its identity**, currently based on the flexibility built into its design, could be considered.
2. The EEC also comments that it is worth considering whether the allotted 15 ECTS to the **Master thesis** is in fact sufficient to allow for the required in depth study of a research topic and the associated thesis writeup, and the consequences this may have for further studies such as a PhD. It is also pointed out that the optional status of the thesis makes the program more industry focused than research focused and raises the possibility of making the shorter master's thesis compulsory.
3. It is pointed out that within the holistic view of AI that the program seeks to achieve, the **symbolic and sub-symbolic AI** ought to be clearly presented.
4. The **compulsory status of the NLP course** is questioned suggesting making it into an elective course. Alternatively, Medical/Health AI could have equal status in the compulsory courses and hence another solution would be to have a compulsory course slot whereby students must take one of 2 stated courses, providing coverage for these two key research areas in the department (**NLP, Medical/Health AI**).
5. It is also suggested that perhaps the **Fundamentals of AI** should be a requirement for those without a similar course at the undergraduate level and a **more advanced AI course** offering to other students made available.
6. The EEC noticed that the UCY website contains little or no information about some of the master's programs offered, stating that it is important for this and other masters that the **information about the programs is clearly displayed and up to date**.
7. The EEC **discourages the joint supervision of master's thesis** given the duration of such projects.
8. The EEC suggests that the encouragement of potential students to attend the program on a full-time basis could be pursued by **marketing well the benefits of a full-time masters in AI** to undergraduate students from the first year of their studies. Industry support should also be encouraged, and study scholarships from industry could also be considered to reduce the need to work in parallel.
9. The EEC recommends that **special scientists** teaching on the program must be informed and be aware of their role and the role of others in the design/design change of a course.
10. The EEC raises a concern regarding the inclusion of **courses from the MSc Data Science** program as electives of this program, given that the depth of delivery required in these two programs may vary.
11. Focusing the **AI Ethics** courses on specific technical aspects associated with ethics such as explainable AI is commended by the EEC. However, given that the Department does not have a member of staff whose research area is ethics of AI, the EEC advises **targeted recruitment of such a person**.
12. The EEC recommends coordinating the **choice of programming language** for the compulsory modules, in particular the Machine Learning and NLP modules, whilst allowing freedom of language selection to the staff teaching the specific electives.

13. All masters benefit from **stories of their graduates** displayed on the web site and regularly updated with recent graduates. This marketing strategy should be applied in due time for this program to aid the recruitment of students.

The Department's response:

1. The identity of the program will be under continuous consideration, utilizing student feedback as well once the delivery of the program starts. After all, it would be necessary to accurately target candidate students and to meet the expectations of admitted students.
2. It is true that in its present design the program is more industry based. However, a student who would be more research focused, possibly aiming to continue with a PhD, could take advantage of the AI Camp and use it as a preamble to a research-based thesis. In addition, during the preceding summer period, such students could also do a research-based internship at the collaborating Research Centre (Cyens) or other Research Centers/Laboratories at UCY. It is therefore conceivable that, with the proper student guidance, by channeling the activities of the summer period to work on some research problem, substantial preliminary thesis work can be done, and this way, additively the overall thesis output could amount to 27 ECTS credits. Likewise, students who would be more industry focused, could embark on an industry-based internship during the summer period as a preamble to a thesis. Thus, yet again, in fact, the thesis output could be more substantial and in depth than the 15 ECTS credit allocation. The decision to have the thesis as optional is largely rooted on experience with the current masters' programs of the Department. The possibility of changing the thesis status to compulsory could be examined based on the accumulated experience of this program.
3. This is noted and the distinction between symbolic and sub-symbolic AI will be clearly addressed.
4. EEC's arguments regarding the compulsory status of the NLP course are convincing and hence NLP will be turned into an elective course, giving the opportunity to the students to attend two electives in the second semester of their studies.
5. This option will be considered, especially when additional teaching resources will be made available. Alternatively, students with an adequate background on AI Fundamentals from their undergraduate studies, could be exempted from the AI Fundamentals course and be allowed to replace it with an extra elective course, in the first semester of their studies.
6. The information on this program will be clearly displayed and up to date. In fact, this is one of the requirements of the EU funding agency.
7. Joint supervision would only be justified if a thesis is industry-based as a continuation of an internship placement.
8. All these suggestions will be pursued. Scholarships will also be made available through the Department's own revenue as well as through the University's Graduate School. It is also worth noting that as from the current academic year an alumnus of the Department is awarding a scholarship to a master student on any of the Department's master programs. It is hoped that other alumni will follow his example.
9. This suggestion will be implemented. Most of the special scientists with whom the Department is collaborating have a long-standing relationship with the Department and are fully aware of the rules and regulations. New coming special scientists will be properly induced.

10. This concern will be borne in mind and if issues arise with the MSc Data Science elective courses, appropriate amendments will be made. The delivery of the program does not depend on these electives that have been included as added value. Given the interdisciplinary nature of AI and consequently the breadth of interest that AI currently has within UCY, other departments have expressed an interest in joining forces with us, enriching the program with new elective courses.
11. We fully agree with EEC's advice that inhouse expertise in the ethics of AI is called for. If a regular position cannot be made available soon, a visiting academic position could be utilized and there are options under consideration regarding possible visiting scholars.
12. A common programming language for the compulsory courses will be discussed. However, some flexibility for the benefit of students is called for, and thus if a student is already conversant with another programming language s/he would be allowed to use this language.
13. This suggestion is already adopted in promotion leaflets for all departments of the University, and indeed such graduate stories should be more widely disseminated by being posted on the web site, as we already do with student awards, distinctions, and achievements.

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

Summary of areas of improvement and recommendations raised by EEC:

1. The EEC recommends **clearer learning outcomes and assessment criteria for the AI Camp and the webinars**, with the understanding that these criteria may themselves evolve with changes in content. In particular, the assessment of the webinars should follow UCY's policy for at least two evaluation methods. It is suggested that **one person should be responsible for the student evaluation of the webinars** course to ensure fair consistent marking. It is also suggested that the **nature of the essays** should be more general, reflecting several of the talks and the critical brainstorming proposed to involve **concrete questions to be answered in the essay and clear guidelines as to the marking**. Further, it is suggested that the **contribution of the individual** to the groupwise critical evaluation could be part of the continuous evaluation.
2. It is also suggested to consider **internships more tightly associated with the MSc dissertation work** by offering related masters theses and perhaps **joint supervision**.
3. The employment of staff within **AI Ethics** is needed and, in the meantime, it is important to **identify soon the staff to teach this material** to provide time for the material being assembled to be evaluated and organized.
4. **The learning outcomes of the industry placement need to be clarified** to ensure that the ECTS allotted to the placements are justified. The EEC raises questions about the **appropriateness of students receiving payment** for internships since they are also given credits for these placements.
5. Overall, it could be useful to have a type of **moderation activity to check the course assessment and marking**. It is also advised that **teaching assistants receive some formal training in their role**, especially with respect to marking, given that marking is only checked and not fully moderated.
6. The EEC advises to indicate the difference in award (**MSc with dissertation and MSc without dissertation**).

The Department's response:

1. All these suggestions are taken onboard and will be implemented. The person in charge of the webinars would be Associate Professor George Pallis. It is also noted that the AI Camp and the webinars are common elements of all the master programs to be developed under the MAI4CAREU project. As such the finer details of the implementation of EEC's suggestions will be discussed in the forthcoming April meeting of the project consortium. The meeting will be hosted at UCY and during this the text of the MoU to be signed by the four collaborating universities will be finalized.
2. We very much agree to consider internships more tightly associated with the MSc dissertation work by offering related masters theses and perhaps joint supervision, and in fact this suggestion is already in the pipeline.
3. The AI Ethics learning material is another common element of the programs of the collaborating universities, and it is to be included in the learning material to be uploaded on

the European Digital Skills and Jobs Platform by the end of August 2022 and be openly available for a period of two years. Amongst the collaborating universities the University of Bologna has expertise in this area, and we'll seek its assistance on the matter raised by the EEC.

4. The learning outcomes of the industry placements will be clarified to ensure that the ECTS are justified. The same scheme of structured industry placements has been running successfully with undergraduate CS students over the past three years. Under this scheme, whereby credits are gained by students who meet the learning outcomes stipulated in their learning agreements, payments are notional for covering living expenses and transportation cost.
5. As this is a more general suggestion it will be conveyed to the Teaching and Learning Centre of the University for its consideration. In addition, the proposed moderation activity will be discussed by the Program Coordination Committee.
6. The implementation of this suggestion entails changes in the legislation of the University. Thus, the award cannot be different if a student does or does not do a thesis. However, even if this distinction cannot be made explicit through the awarded degree, still the undertaking of a thesis and the nature of such a thesis (research or industry based) can be explicated through the student's transcript and Diploma Supplement.

3. Teaching staff (ESG 1.5)

Summary of areas of improvement and recommendations raised by EEC:

1. The EEC recommends seeking to **reduce the reliance on visiting staff in the longer-term.**
2. The EEC also recommends that a **mentoring system** is set up for the new young researchers that will be recruited in the academic positions to be vacated by existing senior staff.
3. The **selection of new academic staff should not be limited to those speaking Greek.** In other countries where teaching at the undergraduate level needs to be given in the local language, a period is allowed before a new international staff member must complete language courses to the required level.
4. It is advisable to find ways allowing **PhD students to acquire some teaching experience.** The EEC comments that there seems to be less clarity as to who will be teaching what and particularly the **balance in the individual courses between permanent staff and special teachers.** This should be clarified.

The Department's response:

1. This is very much our objective, and in fact the reliance is expected to be reduced with the recruitment of a new member of academic staff in AI with emphasis on machine learning. This new position is expected to be filled in 2022, aiming for the new person to start his/her appointment in September 2022 or January 2023.
2. This suggestion will be taken onboard. In fact, UCY has already decided to implement a mentoring system for new blood members of academic staff and the implementation is underway.
3. UCY already allows the practice mentioned by the EEC and other departments of UCY happened to offer academic positions to non-Greek speaking people. The announcement of an academic position mentions that the standard language of teaching is Greek but does not require from applicants to already speak Greek. In recent position announcements we had received applications from non-Greek speaking people, and these were considered eligible. With the offer of master's programs in English the recruitment of international academic staff would be more actively pursued.
4. The Postgraduate Studies Committee of the Department will consider ways of allowing PhD students to acquire some teaching experience and make suggestions to the Departmental Board. This suggestion will also be forwarded to UCY's Graduate School for its consideration. In fact, PhD students are invariably invited to enrich advanced undergraduate or postgraduate courses by delivering learning material (in the form of seminars or lectures) related to their research. Regarding the special scientists' issue raised by the EEC, it is clarified that the learning material delivered by a special scientist is vetted by the Department and the delivery is done under the responsibility and support of a permanent member of staff. Moreover, the Program Coordination Committee will ensure that it will be made absolutely clear who is teaching what in each of the courses of the program.

4. Student admission, progression, recognition and certification

(ESG 1.4)

Summary of areas of improvement and recommendations raised by the EEC:

1. A targeted policy is needed to **address the drastic drop in the number of female students**. One successful technique that may be applied is a national cinema campaign/advert aimed at females.
2. Some details about the **entrance requirements need further clarification** and subsequent publication (selection of short-listed applicants for interview, minimum grade requirement at undergraduate level).
3. It is important that **theses and coursework delays are limited**.
4. **Students that have a relevant background should be able to take advanced courses when starting the master's program.**

The Department's response:

1. This matter is under investigation in direct collaboration with the Ministry of Education. The application of the proposed technique will be considered by the relevant departmental committee.
2. The details of the entrance requirements will be fully clarified and posted on the announcements of the study positions.
3. The adherence to the relevant rules will be closely monitored by the Program Coordination Committee in collaboration with all the teaching staff. If the delays are due to special student circumstances, the relevant guidance and support will be provided to those students.
4. As mentioned previously, students with relevant background could be allowed to replace the AI Fundamentals course with an elective course to acquire from the start more advanced specialized knowledge.

5. Learning resources and student support (ESG 1.6)

The EEC notes that the program has a very good structure and support, that administrative staff are well organized and provide high quality support and that the Department is well managed and resources are adequately used to provide excellent quality of services and outputs.

Summary of areas of improvement and recommendations raised by the EEC:

1. The process of **IPR** seems to be handled by the career office but information as to the person to contact and the process for students should be made publicly available, particularly for this program where **Entrepreneurship is in focus**.
2. To **ensure the success of the ERASMUS process** under consideration it will be important to ensure a range of contracts with different universities, providing sufficient coverage of the compulsory courses in English. Importantly, students will need to know the details of the process to ensure that courses studied abroad will be approved on their return, requiring some form of pre-approval process.

The Department's response:

The Department expresses its sincere thanks and genuine satisfaction for the very positive remarks of the EEC regarding the learning resources and student support and throughout the evaluation report.

Regarding the two recommendations:

1. UCY's revised IPR policy was approved by the Senate at its last meeting held on 9/2/2022. This policy will be made publicly available on UCY's web site and will be presented and discussed with the students of this program in the context of relevant modules, such as the AI Entrepreneurship course.
2. The MoU to be signed between the four collaborating universities foresees the signing of bilateral ERASMUS agreements and safeguards for all the issues pointed out by the EEC. Moreover, UCY's ERASMUS office in conjunction with the departmental ERASMUS coordinators ensures that the courses successfully studied abroad will be approved on the students' return.



6. Additional for doctoral programmes (ALL ESG)

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7. Eligibility (Joint programme) (ALL ESG)

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B. Conclusions and final remarks

The Department is very pleased to note the key strengths identified by the EEC in its conclusions and final remarks, and fully endorses EEC's final recommendations, namely the recruitment of high scientific caliber, female academic staff, and female students, through targeted efforts, to improve the number and gender balance of admitted students through a targeted strategy and for the Department to continue to collaborate with world-leading external researchers and industry to meet the targeted teaching of the program.

The Department expresses its sincere thanks to the EEC for the in-depth evaluation of the proposed new MSc in Artificial Intelligence, and the interesting discussions and insightful exchanges that took place during the online meeting. The Department also expresses its sincere thanks to the CYQAA and the officer supporting the evaluation process for their professionalism and for ensuring the smooth running of the evaluation process.



C. Higher Education Institution academic representatives

<i>Name</i>	<i>Position</i>	<i>Signature</i>
Elpida Keravnou-Papailiou	Departmental Chair and MSc AI Coordinator	
Click to enter Name	Click to enter Position	
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Date: 15/02/2022

