

Doc. 300.1.2

Date: June 6, 2022

# Higher Education Institution's Response

- Higher Education Institution: **UNIVERSITY OF CYPRUS**
- Town: **NICOSIA**
- Programme of study  
Name (Duration, ECTS, Cycle)  
  
In Greek: **ΜΑΣΤΕΡ ΣΤΙΣ ΜΑΘΗΜΑΤΙΚΕΣ ΕΠΙΣΤΗΜΕΣ**  
In English: **MSc IN MATHEMATICAL SCIENCES**
- Language(s) of instruction: **GREEK AND ENGLISH**
- Programme's status: **Currently Operating**
- Concentrations (if any):

In Greek: Concentrations

In English: Concentrations

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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)

<u>Areas of improvement and recommendations</u>	
<b><u>Masters in Mathematical Sciences</u></b>	
<i>Changing the instruction language to English has the potential to attract international students and increase the appeal of the programme.</i>	The language of instruction is a university wide problem which has been identified in previous evaluations. There are ongoing discussions with the Government about modifying the admissions mechanisms and the language of instruction. UCY is a public university and therefore admissions, language of instruction, etc are governed by the law of the University and any changes
<i>The frequency of elective course offerings varies widely among different courses. Some areas of specialization appear not be available to students at all times. This is not clear from the public information. The EEC recommends sharing information on course offerings which are guaranteed to take place at least once in two years and other courses that are mainly offered as reading courses upon request. Decisions which courses are offered are usually made for the next two-year period but the information is not public.</i>	Starting next academic year (2022-2023) we will provide a two-year schedule of elective courses to all master's students.
<i>More systematically collected data, including student feedback on programmes, gathered in a central database would allow for an improved analysis and conclusions</i>	In the last few years, the QA Committee of the University has established internal QA tools for facing this weakness such as the Exit Survey, the evaluation of distance learning by students and instructors. In addition to these actions an annual event for promoting QA culture within the University was established in 2021. In addition, the QA Office monitors, and records strengths and weaknesses as stated in the EEC's reports in order to promote actions at a central level for improvement or sharing good practices within the UCY community. Therefore, data collection has improved radically since 2019 and the Department will utilize it for monitoring and improving all graduate programmes.



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

<u>Areas of improvement and recommendations</u>	
<u><i>Master's in mathematical sciences</i></u>	
<p>Most lectures are classical white-board lectures before the pandemic. Students appreciate new methods of hybrid learning. It is worth considering using more teaching methods of inverted classroom type.</p>	<p>We are using all modern technology available to deliver online courses for all our programmes and our undergraduate students provided us with feedback that enabled us to improve delivery. Most of the students have been positive about the use of a tablet-based blackboard as it also allows saving the notes which are subsequently distributed to the students. In addition, a lab equipped with two interactive matrices was delivered to the department and has started operating in the Summer 2021. This lab has already been used (MAS 452, Spring 2022) and it enhances interaction leading to the development of new teaching methods.</p>

### 3. Teaching staff (ESG 1.5)

<u>Areas of improvement and recommendations</u>	
<u><i>Master's in mathematical sciences</i></u>	
<p><i>It is essential to react adequately to upcoming retirements over the next decade to maintain the high standards of research and education. A long-term strategy should be found how to fill and co-ordinate the positions and this strategy should be combined with the future development of the programmes.</i></p>	<p>The Department strongly agrees with the EEC suggestion that it would be more effective to create an internal plan so that once the necessary resources are allocated to UCY (and then to the Department), to distribute immediately resources as decided in the internal plan (i.e. pre-decided Faculty positions will be immediately advertised) thus no delays to be created.</p> <p>The tentative plan is the following:</p> <ol style="list-style-type: none"> <li>a) There will be an equal distribution of new positions allocated across all research areas represented in the Department (Pure Mathematics, Applied Mathematics and Probability/Statistics).</li> <li>b) By the end of the calendar year 2022, we will be forming small faculty member focused groups representing each area. The aim of these working groups will be to identify new directions and novel research areas and then make the appropriate recommendations to the faculty.</li> </ol> <p>The UCY is a public University, which means that the budget is allocated yearly by the state parliament. Moreover, administrative issues such as the budget distribution, are dealt with by the relevant University bodies. Because of the yearly budget allocation, it is challenging to generate a long-term strategic plan (even a medium-term strategic plan). Despite these significant constraints, UCY has a five-year strategic plan, currently for the period 2021-2025.</p>
<p><i>English programmes might attract more international top researchers.</i></p>	<p>The language of instruction is a university wide problem which has been identified in previous evaluations.</p>

	<p>There are ongoing discussions with the Government about modifying the admissions mechanisms and the language of instruction. UCY is a public university and therefore admissions, language of instruction, etc are governed by the law of the University and any changes must be approved by the state parliament.</p>
<p><i>Lack of a strategy for advancement of women to address the gender imbalance of the teaching staff.</i></p>	<p>The gender imbalance in teaching staff is an issue that should be discussed further at university level. UCY recently established the Office for Diversity, Equality and Inclusivity (Diversity, Equality and Inclusivity Office (ucy.ac.cy)), showing its commitment to create all necessary conditions that will encourage and respect diversity and ensure equality and inclusivity both in the workplace and society. The mission of this new Office is to promote the integration, diversity, equality and elimination of all forms of discrimination at UCY. Furthermore, UCY has endorsed Codes of Ethics related to Diversity, Inclusivity &amp; Equality as well as a Gender Equality Plan 2022-2025.</p>



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

Areas of improvement and recommendations

Areas of improvement and recommendations for MMS





## 5. Learning resources and student support (ESG 1.6)

<u>Areas of improvement and recommendations</u>	
Master's in Mathematical Sciences	
No comments	



## 6. Additional for doctoral programmes (ALL ESG)

### Areas of improvement and recommendations

- *The EEC suggests to add a roadmap with milestones to the research proposal towards the completion of the research project.*
- *The review time for the thesis readers should be specified.*

These suggestions are implemented through Graduate School/University Regulations and the department has no impact on final decisions. However, this point will be communicated to appropriate university committees.



## 7. Eligibility (Joint programme) (ALL ESG)

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## B. Conclusions and final remarks

*The department offers strong research-oriented graduate programmes in pure mathematics, applied mathematics and statistics. The EEC acknowledges the key role of the department in establishing higher education standards in Cyprus. It is the only department with PhD programmes and faculty graduates of high caliber in mathematics and statistics in Cyprus. The PhD programmes are well designed along the lines of highly respectable international PhD programmes, such as, for example, in US universities. Graduates of the programmes are highly sought after. Students have close access to personal academic advice and courses with high student-to-teacher ratio. High priority should be given to faculty replacement plan in view of the upcoming retirements.*

*We point at important issues that came up during the discussion with faculty and students*

*that address all three evaluated graduate programmes.*

1. *Increasing the international visibility of the programmes.*
  - a) *A potential remedy is changing the language of instruction to English.*
  - b) *Operate a visitor programme. Visitors offer short topics courses in their area of expertise. The courses will count toward graduate credit and be open to in-house and international students.*
2. *Provide more administrative support for the teaching staff. This results in less administrative work for the teaching staff and allows them to invest their time in research and teaching.*
3. *Start-up funds and reduced teaching load should be regularly offered to new faculty members. Foster incentives to apply for external research grants.*
4. *The requirement of at least 5 students for a graduate course to be offered is unjustifiably high for the size of the graduate student body of the department. EEC's recommendation is to be decreased to 3.*

*that address both PhD programmes.*

5. *The amount of the financial assistance was deemed inadequate for a participant to cover the cost of living independently. Teaching assistantships and scholarships are not feasible for students entering the programme from abroad.*
  - a) *EEC recommends substantial increase to meet basic living costs.*
  - b) *Changing the language of instruction to English allows students entering the programme from abroad to acquire teaching assistantships.*

*that address the PhD Statistics programme.*

6. *The area of research for new hires in statistics. This is an important part of strategic planning and vision for the department and in particular for the statistics group.*
  - a) *EEC suggestions: high-dimensional statistics, statistical learning, data science.*
  - b) *Take into account potential for interdisciplinary collaborations.*
  - c) *(c) Leverage the rather unique feature of the UCY Statistics program in Europe in its comparability to programs offered by Statistics departments in US universities, in particular as to wide spectrum of training covering multiple areas of Statistics.*

*that address the PhD Mathematics programme.*



7. *The area of research for new hires in mathematics.*
  - a) *EEC suggestions: mathematical machine learning, optimization, or interface of optimization/learning.*

We agree with remarks 1b, 5a and will discuss ways of achieving these goals with UCY authorities.

We have repeatedly asked for more secretarial personnel, to support daily operations and strategic planning. We strongly believe that a department of our size requires the support of at least 2 permanent secretaries and 1 IT person and we hope that the administration will support this. Additional support staff will help the faculty to focus more on research and less on administrative tasks.

As stated above, we agree with recommendation of the EEC for offering more fellowships to doctoral students upon admission. The situation will also improve by attracting more external, local and European, funding to support PhD candidates.

We agree with the suggestion of reducing the limit to 3 students. The CYQAA should re-examine the relevant regulations.

A position in Probability and Statistics has been recently advertised by the Department and we expect more tenure-track positions to be allocated by the University in the near future. Some of these positions will hopefully attract candidates with interdisciplinary profiles and the ability to forge collaborations with other Departments. In addition, the Department has recently asked for two additional positions in the general area of Mathematical Machine Learning covering a wide spectrum of potential research areas.

The language of instruction is a university wide problem which has been identified in previous evaluations. There are ongoing discussions with the Government about modifying the admissions mechanisms and the language of instruction. UCY is a public university and therefore admissions, language of instruction, etc are governed by the law of the University and any changes must be approved by the state parliament.

Start-up funds are available to new faculty members. However, the teaching load cannot be reduced due to the UCY regulations.

A position in computational mathematics and optimization has been recently advertised by the Department.



### C. Higher Education Institution academic representatives

<i>Name</i>	<i>Position</i>	<i>Signature</i>
<b>Konstantinos Fokianos</b>	Chairman, Professor	
Click to enter Name	Click to enter Position	
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Click to enter Name	Click to enter Position	

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