

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: **ΔΙΔΑΚΤΟΡΙΚΟ ΣΤΑ ΜΑΘΗΜΑΤΙΚΑ
(ΕΦΑΡΜΟΣΜΕΝΑ ΚΑΙ ΚΑΘΑΡΑ)**

In English: **PhD IN MATHEMATICS (PURE AND APPLIED)**
- 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>	
<u>PhD in Mathematics</u>	
<i>The average duration of study is 12 semesters, which is much longer than the regular duration of the programme which is 8 semesters.</i>	The average duration will be reduced to a period of time regular duration of the programme if more PhD students receive funding. This can be achieved (a) more fellowships are given to the Department and (b) the faculty has more opportunities to attract more external, local and European, funding to support PhD candidates.
<i>Instruction language is Greek which limits broader 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 must be approved by the state parliament.

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

<u>Areas of improvement and recommendations</u>	
<u>PhD in Mathematics</u>	
The requirement of at least 5 students for a graduate course to be offered is unrealistic for a department with this student body size. The EEC recommendation is the limit be reduced to 3.	We agree with the suggestion of reducing the limit to 3 students. The CYQAA should re-examine the relevant regulations.
Lack of funding opportunities for the doctoral students for travel costs at international conferences.	A portion of the graduate fees allocated to the Department could be used to support doctoral student attendance of International conferences and summer or other special schools. Furthermore, there exists a current policy of granting around 900 Euro for traveling (conferences, collaborations). Another possibility is obtaining travel funds through research projects or collaborating with the private sector. In addition, the department has recently requested additional budget for student conference participation

3. Teaching staff (ESG 1.5)

<u>Areas of improvement and recommendations</u>	
PhD in Mathematics	
<i>Specialized courses in mathematics often have less than 5 participants. Such courses do not contribute to the teaching load of the teaching staff. This leads either to less courses or to a higher allocation of teaching hours compared to the time for research. A smaller required number of participants of 3 appears more appropriate to the EEC.</i>	We agree with the suggestion of reducing the limit to 3 students. The CYQAA should re-examine the relevant regulations. We plan to deliver immediately this point to the administration and to CYQAA.
<i>English programmes might attract more international top researchers.</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 must be approved by the state parliament.
<i>Start-up funds and reduced teaching load should be regularly offered to new faculty members.</i>	Start-up funds are available to new faculty members. However, the teaching load cannot be reduced due to the UCY regulations.
<i>A hire of a researcher working on optimization could strengthen the profile in applied mathematics, collaboration opportunities in interdisciplinary projects and mathematics for intelligent infrastructure, AI, etc.</i>	A position in computational mathematics and optimization has been recently advertised by the Department.
<i>Lack of a strategy for advancement of women to address the gender imbalance of the teaching staff.</i>	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 & Equality as well as a Gender Equality Plan 2022-2025.



Student admission, progression, recognition and certification

(ESG 1.4)

Areas of improvement and recommendations

Areas of improvement and recommendations for PhD Math

4. Learning resources and student support (ESG 1.6)

<u>Areas of improvement and recommendations</u>	
PhD in Mathematics	
<p>The administrative staff of the department is overloaded. The number of secretaries is not sufficient. The person for IT support will retire soon and the future of IT support within the department seems to be unclear. More administrative positions in the department are required.</p>	<p>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.</p>
<p>Especially for prospective students coming from abroad lack of funding opportunities constitute a major disincentive. Students take longer than the usual graduation time in mathematics PhD programmes (most students graduate in 6 years as opposed to 4). Our recommendation is that scholarships be made available upon admission and the amount be commensurate with basic living cost.</p>	<p>As stated above, we agree with the recommendation of the EEC to offer more fellowships to doctoral students upon admission. The situation will also improve by attracting more external, local and European, funding to support PhD candidates.</p>

5. 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>
Konstantinos Fokianos	Chairman, Professor	
Click to enter Name	Click to enter Position	
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