

Doc. 300.3.1

Date: March 9, 2022

External Evaluation Report (Departmental)

- **Higher Education Institution:**
University of Cyprus
- **Town:** Nicosia
- **School/Faculty:** Faculty of Pure and Applied Sciences
- **Department:** Mathematics and Statistics
- **Department's Status:** Currently Operating

- **Programme(s) of study under evaluation:**
Name (Duration, ECTS, Cycle)

Programme 1

In Greek:

Διδακτορικό στη Στατιστική

In English:

PhD in Statistics

Programme 2

In Greek:

Μάστερ στις Μαθηματικές Επιστήμες

In English:

Master in Mathematical Sciences

Programme 3

In Greek:

Διδακτορικό στα Μαθηματικά

In English:

PhD in Mathematics



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].



Department's programmes (to be filled by the CYQAA officer and verified by the EEC):

DEPARTMENT	PROGRAMMES OF STUDY
Department of Mathematics and Statistics	PhD in Statistics (at least 6 semesters/240 ECTS, PhD))
	Master in Mathematical Sciences (at least 3 semesters/90 ECTS, MSc)
	PhD in Mathematics (at least 6 semesters/240 ECTS, PhD)

A. Introduction

This part includes basic information regarding the onsite visit.

The Cyprus Agency for Quality Assurance and Accreditation in Higher Education (CYQAA) charged the External Evaluation Committee (EEC) to conduct a remote external evaluation-accreditation of the following programmes of study: PhD in Statistics, Master in Mathematical Sciences and PhD in Mathematics offered by the Department of Mathematics and Statistics of the University of Cyprus.

The process of evaluation included three phases:

1. Before the virtual site visit, the members of the EEC studied the provided reports and material. The EEC had a preliminary remote meeting on February 28 to discuss the evaluation process, the provided material and to prepare for the virtual site visit. The EEC also had a virtual tour of the university, the department and its facilities.
2. During a two-day virtual site visit on March 1 and 2, the EEC discussed the programmes with the head of the department, teaching staff, students and graduates. There was an open and lively discussion of strengths, weaknesses, threats and opportunities and the EEC received answers to all open questions. The meetings turned out to be very helpful to gain additional insights about the strategy, operation and future plans of the department, overall and in particular with respect to the three programmes.

The visit on March 1 included the following main points:

- Meeting with the Vice Rector for Academic Affairs;
- Meeting with the Head of the department;
- Discussion of the Master in Mathematical Sciences with relevant committee;
- Meeting with teaching staff;
- Meetings with administrative staff;
- Meeting with students and graduates;
- Live stream of a course.

The visit on March 2 included the following main points:

- Discussion of the PhD in Mathematics with relevant committee;
- Discussion of the PhD in Statistics with relevant committee;
- Meeting with teaching staff;
- Meeting with students and graduates;
- Meeting with the Head of the department and programme's coordinators.

3. After the virtual site visit, the EEC had a final remote meeting on March 4 to do a point-by-point discussion and to finalize the writing of the report. We used the information from the applications and the visit for this external evaluation report. The information provided by the department was clear and sufficient.

This report will confirm an overall high opinion of the EEC on the department and its three evaluated graduate programmes. Some members of the EEC had no previous contact or knowledge of the UCY, and they were positively surprised to learn about the high international level of the research carried out at the department, evidenced by publications in very good international journals and by membership of the faculty members in editorial boards of several such journals. The postgraduate degree programmes that were assessed in this same evaluation were also impressive in terms of the broad spectrum of subfields of mathematics and statistics



covered by the courses offered, something that was also clearly appreciated by the students and alumni of these programs that the EEC discussed with. During the discussions with the faculty, it became clear that this rich variety is only possible thanks to the high dedication of the teaching and research staff, as many of them are offering additional courses that do not count towards their teaching load due to current regulations about the minimum size of the audience. Finally, the EEC would like to acknowledge the open and democratic atmosphere of the department that was obvious even from the short time of interaction that we had. The faculty was not afraid of showing their different opinions about departmental development issues, like future recruitments, in front of the EEC. At the same time, behind the debate about the details, there was a sense of commitment to the common goal of upholding high standards and building an even stronger department.

We hope that the report and the accreditation process are useful for the department to further improve certain aspects of the high-quality research and education that they conduct and offer in mathematics and statistics. While several aspects of graduate teaching and supervision are also touched in this report, we refer the reader to a separate evaluation on the degree programmes for a more detailed analysis concerning them.

B. External Evaluation Committee (EEC)

<i>Name</i>	<i>Position</i>	<i>University</i>
Tuomas Hytönen (Chair)	Professor	University of Helsinki
Efstathia Bura	Professor	TU Wien (Vienna University of Technology)
Markus Bibinger	Professor	University of Würzburg
Charalambos Christoforou	Student	Cyprus University of Technology

C. Guidelines on content and structure of the report

- *The external evaluation report refers to the Department as a whole (programmes offered, teaching staff, administrative staff, infrastructure, resources, etc.).*
- *The external evaluation report follows the structure of assessment areas and sub-areas.*
- *Under each assessment area there are quality indicators (criteria) to be scored by the EEC on a scale from one (1) to five (5), based on the degree of compliance for the above mentioned quality indicators (criteria). The scale used is explained below:*

1 or 2:	Non-compliant
3:	Partially compliant
4 or 5:	Compliant

- *The EEC must justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.*
- *It is pointed out that, in the case of indicators (criteria) that cannot be applied due to the status of the Department, N/A (= Not Applicable) should be noted and a detailed explanation should be provided on the Department's corresponding policy regarding the specific quality indicator.*
- *In addition, for each assessment area, it is important to provide information regarding the compliance with the requirements. In particular, the following must be included:*

Findings

A short description of the situation in the Department based on evidence from the Department's application and the site - visit.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

- *The EEC should state the compliance for each sub-area (Non-compliant, Partially compliant, Compliant), **which must be in agreement with everything stated in the report.***
- *The report may also address other issues which the EEC finds relevant.*

1. Department's academic profile and orientation

(ESG 1.1, 1.2, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9)

Sub-areas

1.1 Mission and strategic planning (including SWOT analysis)

1.2 Connecting with society

1.3 Development processes

Mark from 1 to 5 the degree of compliance for each quality indicator/criterion

1 or 2: Non-compliant

3: Partially compliant

4 or 5: Compliant

Quality indicators/criteria		
1. Department's academic profile and orientation		
1.1 Mission and strategic planning (including SWOT analysis)		1 - 5
1.1.1	The Department has formally adopted a mission statement, which is available to the public and easily accessible.	5
1.1.2	The Department has developed its strategic planning aiming at fulfilling its mission.	4
1.1.3	The Department's strategic planning includes short, medium-term and long-term goals and objectives, which are periodically revised and adapted.	3
1.1.4	The programmes of study offered by the Department reflect its academic profile and are aligned with the European and international practice.	5
1.1.5	The academic community is involved in shaping and monitoring the implementation of the Department's development strategies.	5
1.1.6	Stakeholders such as academics, students, graduates and other professional and scientific associations participate in the Department's development strategy.	3
1.1.7	The mechanism for collecting and analysing data and indicators needed to effectively design the Department's academic development is adequate and effective.	3
Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.		

1.1.2–3: There are longer term visions, but in some cases the first concrete steps seem to be missing. The department has had difficulty in agreeing where to direct positions that they could already open. Ideally, they should have an idea of where they want to go well in advance, so that when a new position becomes available, it can be immediately opened according to a pre-existing plan.

1.1.6–7: The involvement of stakeholders within the academic community is good but the consultation of external stakeholders and collecting data is ad hoc, not systematic.

Additionally, provide information on the following:

1. Coherence and compatibility among programmes of study offered by the Department.
2. Coherence and compatibility among Departments within the School/Faculty (to which the Department under evaluation belongs).
 1. The coherence and compatibility among the programmes of study is good. There are innovative solutions of getting the maximum benefit out of the limited resources by exploiting synergies between different programs (e.g., courses that are simultaneously offered at both undergraduate and postgraduate level, with both teaching content and examination tailored to different simultaneous audiences).
 2. As mathematics and/or statistics are used as methods in several other disciplines, the department has an important role beyond its own borders in providing service teaching to several other departments.

[Click to enter text.](#)

Provide suggestions for changes in case of incompatibility.

The Department should introduce a 5-year (for example) personnel plan, listing the expected retirements and planned replacements (a position in the same area, a redirection to a new area or something else). If it is not feasible to agree in one common direction that everyone can support, perhaps a rotation of new positions between different groups could be introduced.

1. Department's academic profile and orientation

1.2 Connecting with society		1 - 5
1.2.1	The Department has effective mechanisms to assess the needs and demands of society and takes them into account in its various activities.	4
1.2.2	The Department provides sufficient information to the public about its activities and offered programmes of study.	5
1.2.3	The Department ensures that its operation and activities have a positive impact on society.	5
1.2.4	The Department has an effective communication mechanism with its graduates.	4

Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.

1.2.1: There seems to be some tendency of development from the point of view of internal rather than external needs. E.g., a new program in Data Science is seen as an opportunity to “strengthen the profile of its graduate students”, instead of contributing new specialists in need to the society. A similar issue is with the hopes of attracting and educating more international students. It could be useful to evaluate the needs for international math graduates in the Cyprus society, rather than just looking for ways to have more students at the department.
1.2.4: The department is missing its own alumni network platform; communication is on an ad hoc basis.

1. Department’s academic profile and orientation

1.3 Development processes

1 - 5

1.3.1	Effective procedures and measures are in place to attract and select teaching staff to ensure that they possess the formal and substantive skills to teach, carry out research and effectively carry out their work.	5
1.3.2	Planning teaching staff recruitment and their professional development is in line with the Department's academic development plan.	3
1.3.3	The Department applies an effective strategy of attracting high-level students from Cyprus and abroad.	3
1.3.4	The funding processes for the operation of the Department and the continuous improvement of the quality of its programmes of study are adequate and transparent.	3

Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.

1.3.2: See comments on 1.1.2–3.

1.3.3: For students from Cyprus, yes, but for students abroad, the department (and probably the university) still needs to establish an effective strategy. The department has an interest to attract international students, but it seems that regulations concerning the teaching language present a major bottleneck.

1.3.4: Transparency is not an issue, but the funding process seems to be unnecessarily bureaucratic and clumsy, complicating efficient planning of operations.

Additionally, write:

- Expected number of Cypriot and international students
- Countries of origin of international students and number from each country

Based on data from 2015–2019, the number of undergraduate students enrolled in all programmes of the department at a given time is ca. 230–280, of which international (mainly Greek) 10–15. For Master students the numbers are ca. 10–30, of which international (only Greek) 1–2, and for PhD students ca. 10–15, all Cypriots. Besides Greece, there has been 1 international undergrad student from Albania during the reported period.

A short description of the situation in the Department based on evidence from the Department's application and the site - visit.

The teaching and research staff consists of academics specialized in pure mathematics, applied mathematics and statistics, in roughly equal portions for each of the three areas. Within each area, several subfields of contemporary mathematics and statistics are well represented. The research interests of the staff are reflected in a broad selection of courses in different topics. In practice, only a fraction of the courses is offered each year, but the department is very flexible in terms of this offer, and the interests of the current pool of students are taken into account. Topics with limited interest are offered as reading courses.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

The teaching and research staff is active in research with good qualifications. They publish in high level international journals and give invited presentations in conferences. Several of them have obtained competitive external funding and/or participate in editorial boards of international journals. The staff is strongly dedicated to upholding high standards and a broad offer of teaching topics, even at the cost of offering additional courses that do not count towards their teaching load. The department makes a good societal impact in terms of various outreach activities.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

A backside of democratic decision-making in a heterogenous department is that it seems to be difficult to find an agreement about concrete short-term development actions. The department would benefit from finding common targets that a majority could support.

Please select what is appropriate for each of the following sub-areas:

Sub-area	<i>Non-compliant / Partially Compliant / Compliant</i>
1.1 Mission and strategic planning	Partially Compliant
1.2 Connecting with society	Compliant
1.3 Development processes	Partially Compliant

2. Quality Assurance

(ESG 1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 1.8)

Sub-areas

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

Mark from 1 to 5 the degree of compliance for each quality indicator/criterion

- 1 or 2: *Non-compliant*
- 3: *Partially compliant*
- 4 or 5: *Compliant*

Quality indicators/criteria		
2. Quality Assurance		
2.1 System and quality assurance strategy		1 - 5
2.1.1	The Department has a policy for quality assurance that is made public and forms part of the Institution's strategic management.	5
2.1.2	Internal stakeholders develop and implement a policy for quality assurance through appropriate structures and processes, while involving external stakeholders.	4
2.1.3	The Department's policy for quality assurance supports guarding against intolerance of any kind or discrimination against students or staff.	3
2.1.4	The quality assurance system adequately covers all the functions and sectors of the Department's activities:	
2.1.4.1	Teaching and learning	4
2.1.4.2	Research	4
2.1.4.3	The connection with society	4
2.1.4.4	Management and support services	4
2.1.5	The quality assurance system promotes a culture of quality.	5
2.1.6	Students' evaluation and feedback	4

Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.

2.1.2: The involvement of external stakeholders could be more systematic.

2.1.3: The quality assurance policy supports this goal in very generic terms (respect for human rights, responsibility towards social partners), but does not systematically address the topics of intolerance and discrimination, and how to deal with them, should they ever arise. It is recommended that such a policy be formed at the university rather than the department level.

2.1.4.1–4: No obvious deficiencies observed by the EEC. The documentation of the quality assurance system is detailed in each area. The self-evaluation is more critical here (grade 3 for each), suggesting that everything is not quite as smooth in practice as on paper.

2.1.6: (We interpret this as the evaluations and feedback that students give on their teachers, not as the assessment of students' performance by teachers.) Student's evaluation and feedback is used, but data is not systematically collected and analysed.

2. Quality Assurance

2.2 Quality assurance for the programmes of study

1 - 5

2.2.1	The responsibility for decision-making and monitoring the implementation of the programmes of study offered by the Department lies with the teaching staff.	5
2.2.2	The system and criteria for assessing students' performance in the subjects of the programmes of studies offered by the Department are clear, sufficient and known to the students.	5
2.2.3	The quality control system refers to specific indicators and is effective, which have been presented and discussed.	4
2.2.4	The results from student assessments are used to improve the programmes of study.	4
2.2.5	The policy dealing with plagiarism committed by students as well as mechanisms for identifying and preventing it are effective.	4
2.2.6	The established procedures for examining students' objections/ disagreements on issues of student evaluation or academic ethics are effective.	4
2.2.7	The Department publishes information related to the programmes of study, credit units, learning outcomes, methodology, student admission criteria, completion of studies, facilities, number of teaching staff and the expertise of teaching staff.	5
2.2.8	Names and position of the teaching staff of each programme are published and easily accessible.	5

2.2.9	The Department has a clear and consistent policy on the admission criteria for students in the various programmes of studies offered.	5
2.2.10	The Department flexibly uses a variety of teaching methods.	4
2.2.11	The Department systematically collects data in relation to the academic performance of students, implements procedures for evaluating such data and has a relevant policy in place.	3
2.2.12	The Department analyses and publishes graduate employment information.	4
2.2.13	The Department ensures adequate and appropriate learning resources in line with European and international standards and/or international practices, particularly:	
2.2.13.1	Building facilities	5
2.2.13.2	Library	5
2.2.13.3	Rooms for theoretical, practical and laboratory lessons	5
2.2.13.4	Technological infrastructure	4
2.2.13.5	Academic support	4
2.2.14	There is a student welfare service that supports students in regard to academic, personal problems and difficulties.	5
2.2.15	The Department's mechanisms, processes and infrastructure consider the needs of a diverse student population such as mature, part-time, employed and international students as well as students with disabilities.	3
2.2.16	Mentoring of each student is provided and the number of students per each permanent teaching member is adequate.	5
2.2.17	The provision of quality doctoral studies is ensured through doctoral studies regulations, which are publicly available.	5
2.2.18	The number of doctoral students, under the supervision of a member of the teaching staff, enables continuous and effective feedback to the students and it complies with the European and international standards.	5
2.2.19	The Department has mechanisms and funds to support writing and attending conferences of doctoral candidates.	3
2.2.20	There is a clear policy on authorship and intellectual property.	5

Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.

2.2.3: No obvious deficiencies identified by the EEC, but the internal evaluation is somewhat critical on this point (grade 3), suggesting that the department is not entirely satisfied with the effectiveness of the quality control system in practice.

2.2.4–6: No obvious deficiencies identified, but in these topics, there is always room for improvement. Our grades agree with the internal evaluation.

2.2.10: The flexibility of teaching methods in the general description of the department is not entirely reflected in the concrete course descriptions, where the “teaching methodology” is “lectures (4 hours per week)” for most of the graduate courses.

2.2.11: It seems that the collection of this data is not systematic. Our grade agrees with the internal evaluation.

2.2.12: The department has collected detailed employment information from graduates in the period 2006–2010. They are considering the possibility of developing another statistical analysis of employment data in the future that would include a larger period of graduation years including recent graduates. This information does not seem to be published.

2.2.13.1–5: The internal evaluation was more critical here, but no obvious deficiencies were observed by the EEC. Of course, visiting the facilities only virtually may limit the EEC’s capacity of observing these. Based on the virtual site visit, the facilities gave a modern and well-functioning impression. The new library seems very impressive. As partial evidence for a functional IT infrastructure, the EEC notes that the online site visit progressed very smoothly with essentially no technical interruptions.

2.2.15: The mechanisms (mainly rules concerning language of teaching) don’t seem to fully support internationalization of the student population beyond the Greek-speaking community.

2.2.19: According to the interviews, these mechanisms seem to be insufficient, and their future is somewhat unpredictable.

Findings

A short description of the situation in the Department based on evidence from the Department’s application and the site - visit.

The department’s quality assurance system, as presented in the documents provided to the EEC, is comprehensive and detailed, with little room for complaints by the EEC. The fact that the department’s self-evaluation is somewhat critical about several points suggests that everything is not as smooth in practice as on paper.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

There are comprehensive and detailed instructions covering various department operations.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

- More systematic collection and analysis of data on various department operations is recommended.

- The stability of funding mechanisms for PhD students to gain international experience should be guaranteed.
- Advancing English as an instruction language at the graduate level to support internationalization.
- The EEC recommends that the department develops the dialogue with their client departments on the mathematics/statistics service courses that they offer.

Please ✓ what is appropriate for each of the following sub-areas:

Sub-area	<i>Non-compliant / Partially Compliant / Compliant</i>
2.1 System and quality assurance strategy	Compliant
2.2 Quality assurance for the programmes of study	Compliant

3. Administration (ESG 1.1, 1.3, 1.6)

Mark from 1 to 5 the degree of compliance for each quality indicator/criterion

- 1 or 2: *Non-compliant*
- 3: *Partially compliant*
- 4 or 5: *Compliant*

Quality indicators/criteria		
3. Administration		1 - 5
3.1	The administrative structure is in line with the legislation and the Department's mission.	5
3.2	The members of the teaching and administrative staff and the students participate, at a satisfactory degree and on the basis of specified procedures, in the management of the Department.	5
3.3	The administrative staff adequately supports the operation of the Department.	3
3.4	Adequate allocation of competences and responsibilities is ensured so that in academic matters, decisions are made by academics and the Department's council competently exercises legal control over such decisions.	5
3.5	The Department applies effective procedures to ensure transparency in the decision-making process.	5
3.6	Statutory sessions of the Department are held and minutes are kept.	5
3.7	The Department's council operates systematically and autonomously and exercise the full powers provided for by the law and / or the constitution of the Department without the intervention or involvement of a body or person outside the law provisions.	5
3.8	The manner in which the Department's council operates and the procedures for disseminating and implementing their decisions are clearly formulated and implemented precisely and effectively.	5
3.9	The Department applies procedures for the prevention and disciplinary control of academic misconduct of students, teaching and administrative staff, including plagiarism.	5
3.10	The Department has appropriate procedures for dealing with students' complaints.	4

3.11	Internationalization of the Department and external collaborations.	4
<p>Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.</p> <p>3.3: The current admin personnel of the department is competent and dedicated, and their work is well appreciated by the department, but their number seems to be insufficient, also in comparison to some other departments. This was evidenced by the fact that some teaching and research staff participating in joint degree programmes with other departments felt that they had to take care of administrative details that their colleagues at other departments could simply pass to secretarial staff.</p> <p>3.10: The department procedures agree with the university level rules, but these are not specific about the details of how the complaints are handled.</p> <p>3.11: The department is well connected in terms of international collaboration, and the faculty members have obtained their qualifications in prestigious international institutions. However, the country of origin of all faculty members is Cyprus or Greece, which is somewhat narrow in international comparison.</p>		

Findings

A short description of the situation in the Department based on evidence from the Department's application and the site - visit.

The department has a well-defined and systematic admin structure. The department has some of its own admin personnel, but both the admin personnel themselves and the teaching and research staff felt that the number of admin personnel is not sufficient. The department and its degree programmes operate in Greek, which restricts international recruitment of both staff and students.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- The department has admin personnel of its own. They are competent and dedicated, and their work is well appreciated by the department.
- The department operates in a very democratic way. Different opinions are openly expressed and debated, yet with a shared goal of developing a strong department in mind.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

- The department needs more administrative (secretarial) support.
- Internationalization of both the teaching and research staff and the graduate student body would be desirable.

Please select what is appropriate for the following assessment area:

Assessment area	<i>Non-compliant / Partially Compliant / Compliant</i>
3. Administration	Partially Compliant

4. Learning and Teaching

(ESG 1.2, 1.3, 1.4, 1.9)

Sub-areas

4.1 Planning the programmes of study

4.2 Organisation of teaching

Mark from 1 to 5 the degree of compliance for each quality indicator/criterion

1 or 2: Non-compliant

3: Partially compliant

4 or 5: Compliant

Quality indicators/criteria		
4. Learning and Teaching		
4.1 Planning the programmes of study		1 - 5
4.1.1	The Department provides an effective system for designing, approving, monitoring and periodically reviewing the programmes of study.	4
4.1.2	Students and other stakeholders, including employers, are actively involved on the programmes' review and development.	3
4.1.3	Intended learning outcomes, the content of the programmes of study, the assignments and the final exams correspond to the appropriate level as indicated by the European Qualifications Framework (EQF).	4
4.1.4	The programmes of study are in compliance with the existing legislation and meet the professional qualifications requirements in the professional courses, where applicable.	5
4.1.5	The Department ensures that its programmes of study integrate effectively theory and practice.	4
Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.		
4.1.2: The involvement of employers seems to be more ad hoc than on a systematic basis.		
4.1.5: The programmes are theoretically oriented, which is a conscious choice.		
4. Learning and Teaching		
4.2 Organisation of teaching		1 - 5

4.2.1	The Department establishes student admission criteria for each programme, which are adhered to consistently.	5
4.2.2	Recognition of prior studies and credit transfer is regulated by procedures and regulations that are in line with European standards and/or international practices.	5
4.2.3	The number of students in the teaching rooms is suitable for theoretical, practical and laboratory lessons.	4
4.2.4	The teaching staff of the Department has regular and effective communication with their students, promoting mutual respect within the learner-teacher relationship.	5
4.2.5	Student-centred learning and teaching plays an important role in stimulating students' motivation, self-reflection and engagement in the learning process.	4
4.2.6	The teaching staff of the Department provides timely and effective feedback to their students.	4
4.2.7	The criteria and the method of assessment as well as the criteria for marking are published in advance.	5
4.2.8	The assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved.	5

Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.

4.2.3: The low numbers of students in graduate programmes somewhat restricts the possibilities of offering some courses.

4.2.5: Most lectures used to be 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.

Findings

A short description of the situation in the Department based on evidence from the Department's application and the site - visit.

The department offers degree programmes in mathematics and statistics at both undergraduate and graduate level; in addition, there is significant service teaching for other departments. The graduate programmes are rather small in terms of student numbers, but the department staff is very dedicated to upholding high standards and broad offer of courses for them, even when teaching to smaller audiences is not counted towards their teaching load. The practices of the degree programmes are well documented and regulated.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- The department staff is highly dedicated to upholding high standards and a broad offer of courses in the graduate programmes.
- The practices of all degree programmes are well documented and regulated.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

It seems that a dialogue with external stakeholders could be developed more systematically for evaluating possible needs of developing the degree programmes in the future.

Please select what is appropriate for each of the following sub-areas:

Sub-area	<i>Non-compliant / Partially Compliant / Compliant</i>
4.1 Planning the programmes of study	Compliant
4.2 Organisation of teaching	Compliant

5. Teaching Staff (ESG 1.5)

Mark from 1 to 5 the degree of compliance for each quality indicator/criterion

- 1 or 2: *Non-compliant*
3: *Partially compliant*
4 or 5: *Compliant*

Quality indicators/criteria		
5. Teaching Staff		1 - 5
5.1	The number of teaching staff - full-time and exclusive work - and the subject area of the staff sufficiently support the programmes of study.	4
5.2	The teaching staff of the Department has the relevant formal and substantive qualifications for teaching the individual subjects as described in the relevant legislation.	5
5.3	The visiting Professors' subject areas adequately support the Department's programmes of study.	4
5.4	The special teaching staff and special scientists have the required qualifications, sufficient professional experience and expertise to teach a limited number of programmes of study.	5
5.5	The ratio of special teaching staff to the total number of teaching staff is satisfactory.	4
5.6	The ratio of the number of subjects of the programme of study taught by teaching staff working fulltime and exclusively to the number of subjects taught by part-time teaching staff ensures the quality of the programme of study.	4
5.7	The ratio of the number of students to the total number of teaching staff is sufficient to support and ensure the quality of the programme of study.	4
5.8	Feedback processes for teaching staff in regard to the evaluation of their teaching work, by the students, are satisfactory.	4

Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.

No major deficiencies in these topics. The EEC is particularly satisfied with:

5.2: All teaching staff are highly qualified in their teaching topics as active researchers with high level publications in the respective areas.

Also, write the following:

- Number of teaching staff working full-time and having exclusive work
- Number of special teaching staff working full-time and having exclusive work
- Number of visiting Professors

- Number of special scientists on lease services

According to the website of the department:

- Full-time teaching staff: 13 professors (+ 1 serving as rector) + 2+6 assistant/associate professors + 1 lecturer = 22 (+ 1 serving as rector).
- Special scientists: 7.
- Visiting professor: 7.

Findings

A short description of the situation in the Department based on evidence from the Department's application and the site - visit.

The department has a high-level teaching staff. All permanent teachers are active researchers with publications relevant to their teaching topic. Special scientist on temporary contracts seem to play an important role in the service teaching offered to other departments.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

The teaching staff is extremely dedicated to upholding high standards of the postgraduate degree programs with a broad selection of study topics even to a relatively small population of postgraduate students. This dedication is evidenced by the fact that many faculty members provide extra teaching that is not counted towards their teaching load due to existing regulations about the minimum size of the audience.

The graduates of the mathematics undergraduate program seem to be very well trained and highly marketable in the local job market. The mathematics service teaching conducted by the Department provides a valuable service to other academic units within the university.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

The service teaching of mathematics/statistics seems to play an important role in the university, but it is largely carried out by special scientists on short temporary contracts. The EEC recommends that (a) permanent position(s) at the Department of Mathematics and Statistics be allocated to this purpose to reflect the strength of the undergraduate mathematics training to service teaching.

Please ✓ what is appropriate for the following assessment area:

Assessment area	<i>Non-compliant / Partially Compliant / Compliant</i>
Teaching staff number, adequacy and suitability	Compliant
Teaching staff recruitment and development	Compliant
Synergies of teaching and research	Compliant

6. Research

(ESG 1.1, 1.3, 1.5, 1.6)

Mark from 1 to 5 the degree of compliance for each quality indicator/criterion

- 1 or 2: *Non-compliant*
 3: *Partially compliant*
 4 or 5: *Compliant*

Quality indicators/criteria		
6. Research		1 - 5
6.1	The Department has a research policy formulated in line with its mission.	5
6.2	The Department consistently applies internal regulations and procedures of research activity, which promote the set out research policy and ensure compliance with the regulations of research projects financing programmes.	5
6.3	The Department provides adequate facilities and equipment to cover the staff and students' research activities.	5
6.4	The Department has the appropriate mechanisms for the development of students' research skills.	5
6.5	The results of the teaching staff research activity are published to a satisfactory extent in international journals which work with critics, international conferences, conference proceedings, publications, etc. The Department also uses an open access policy for publications, which is consistent with the corresponding national and European policy.	5
6.6	The Department ensures that research results are integrated into teaching and, to the extent applicable, promotes and implements a policy of transferring know-how to society and the production sector.	4
6.7	The Department provides mechanisms which ensure compliance with international rules of research ethics, both in relation to research activity and the rights of researchers.	5
6.8	The external, non-governmental, funding of research activities of teaching staff is similar to other Departments in Cyprus and abroad.	4
6.9	The policy, indirect or direct of internal funding of the research activities of the teaching staff is satisfactory, based on European and international practices.	3
Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.		

6.9: Start-up funds are not automatic for new faculty. There is uncertainty of the future of travel funds for doctoral students to conferences.

Findings

A short description of the situation in the Department based on evidence from the Department's application and the site - visit.

The research carried out by the department is on a high level. All permanent faculty are active researcher that give invited presentations in conferences and publish their results in good international journals; many of them are also members of editorial boards of such journals.

Several department members have also obtained competitive external funding. However, it seems that the funding opportunities in mathematics/statistics in Cyprus are somewhat limited; according to the interviews, some other fields are favoured more by the available funding instruments and/or decisions. On the other hand, the incentives offered by the university for applying for grants seem to be partially insufficient. A grantee can “pay off” part of their teaching with the grant if they can obtain and pay a substitute for that teaching. This seems not always feasible in practice. A lack of sufficient secretarial support is also a disincentive: instead of obtaining more time for research, a successful research-grantee may end up spending more time with administration via timesheets, budget tables, etc. related to the management of their grant.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- The research carried out by the department is on a high level.
- Several faculty members have obtained competitive grants from Cyprus and the European Union.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

- Incentives for acquiring external funding are not sufficient.
- Especially applied mathematicians and statisticians could increase their funding opportunities by participating in collaborative grant proposals with other sciences.

Please ✓ what is appropriate for the following assessment area:

Assessment area	<i>Non-compliant / Partially Compliant / Compliant</i>
Research mechanisms and regulations	Compliant
External and internal funding	Partially Compliant
Motives for research	Compliant
Publications	Compliant

7. Resources (ESG 1.6)

Mark from 1 to 5 the degree of compliance for each quality indicator/criterion

- 1 or 2: *Non-compliant*
 3: *Partially compliant*
 4 or 5: *Compliant*

Quality indicators/criteria		
7. Resources		1 - 5
7.1	The Department has sufficient financial resources to support its functions, managed by the Institutional and Departmental bodies.	4
7.2	The Department follows sound and efficient management of the available financial resources in order to develop academically and research wise.	4
7.3	The Department's profits and donations are used for its development and for the benefit of the university community.	5
7.4	The Department's budget is appropriate for its mission and adequate for the implementation of strategic planning.	3
7.5	The Department carries out an assessment of the risks and sustainability of the programmes of study and adequately provides feedback on their operation.	4
7.6	The Department's external audit and the transparent management of its finances are ensured.	N/A
7.7	The fitness-for-purpose of support facilities and services is periodically reviewed.	N/A

Justify the numerical scores provided for the quality indicators (criteria) by specifying (if any) the deficiencies.

7.4: The admin personnel of the department is insufficient. It seems that the budgetary bottleneck is even tighter at the department's operational flexibility in allocating its resources than at the absolute quantities.

7.6–7: No information on these points was available to the EEC.

Findings

A short description of the situation in the Department based on evidence from the Department's application and the site - visit.

An administrative overburden was consistently communicated to the EEC by both the academic and admin staff of the Department. University bureaucracy and department's internal politics impede fast decision making.

Strengths

A list of strengths, e.g. examples of good practices, achievements, innovative solutions etc.

- The facilities of the department seem to be in very good shape.
- The department is currently hiring (two academic vacancies advertised on the website), and another position is to open once its description is decided.

Areas of improvement and recommendations

A list of problem areas followed by or linked to the recommendations of how to improve the situation.

- Ensuring sufficient admin resources would be essential to allow the academic staff to do their best in their core tasks of teaching and research.
- Providing the department more flexibility in the use of the same total budgetary resources would already be an improvement.

Please ✓ what is appropriate for the following assessment area:

Assessment area	<i>Non-compliant / Partially Compliant / Compliant</i>
7. Resources	Compliant

D. Conclusions and final remarks

Please provide constructive conclusions and final remarks, which may form the basis upon which improvements of the quality of the Department under review may be achieved.

The Department of Mathematics and Statistics of the University of Cyprus is a strong department in the areas of research that it represents. All teaching and research staff are active researchers with publications in high-level international journals and invited presentations in conferences. Many of them have editorial board memberships and/or competitive external funding. The strong research profile of the department is reflected in a broad offer of topics in the graduate degree programmes, and the staff is highly dedicated to upholding their high standards, even to a relatively small number of students. The larger quantity of teaching offered by the department is at the undergraduate level and in service courses provided to other departments.

A key to upholding the current high academic standards of the department is to acknowledge the need of sufficient administrative support. It is a common misconception to try to create savings by cutting on administrative personnel when there is no corresponding reduction in the administrative duties that need to be taken care of. Secretaries are usually more efficient in secretarial work than academics, while the latter have a higher salary, so pushing secretarial work to academics is doubly inefficient in terms of the use of budgetary resources.

The seniority profile of the department is an inverted pyramid, with a significant number of the current faculty reaching retirement age over the next ten years. Their replacement by new faculty of comparable (or higher) potential presents a challenge, but also a unique window of opportunity for the department for planning its future direction. The successful recent hires that the department has made show that it has the capacity of attracting strong applicants. It is unfortunate that the department so far has not been able to reach an agreement about where to direct the next position. If the ideal of finding a broad consensus seems out of reach, the next best alternative could be introducing a rotation between different groups at the department. Given the several foreseen retirements and hopefully replacing vacancies in the near future, this should be an acceptable option even to a group that would have to postpone their turn until after the most immediate vacancy. In one way or another, the department should benefit from a personnel plan addressing the nature of the desired upcoming calls, so that positions could be opened as soon as financial resources become available.

Considering the importance of the mathematics/statistics service courses to other departments, allocating more permanent personnel resources (in contrast to the short-term special scientists) to this purpose should be considered. It is strongly in the spirit of the ideal of research-based teaching at the university level that mathematics/statistics courses should be taught by mathematicians/statisticians based at a mathematics/statistics department, also in the future.

Finally, the EEC would like to encourage the department to be braver and more optimistic in leveraging their full potential by looking at new horizons and embracing new opportunities. The geographic location of Cyprus may seem peripheral, if one only looks at the direction of Europe, but it could also be seen as a gate to the Middle East. While the highest-ranking students everywhere will set their targets at more prestigious institutions, there is always a respectable middle class behind the highest top and attracting even a handful of them would already be a significant relative growth in the current graduate programmes. Adopting English as the instruction language on the graduate level would be a key to growth. The EEC would also like to point out that the PhD programme in Statistics has a rather attractive profile also in a European comparison.



E. Signatures of the EEC

<i>Name</i>	<i>Signature</i>
Tuomas Hytönen (Chair)	
Efsthathia Bura	
Markus Bibinger	
Charalambos Christoforou	

Date: 9 March 2022

