

Doc. 300.1.2

Date: January 23, 2021

Απάντηση Ιδρύματος Ανώτερης Εκπαίδευσης

• Ίδρυμα Ανώτερης Εκπαίδευσης:
University of Cyprus

• Πόλη: Nicosia

School/Faculty(if applicable): Faculty of Social Sciences
and Education

Department/Sector: Department of Education

• Πρόγραμμα σπουδών
PhD in Mathematics Education (6-16 semesters, 273
ECTs, Postgraduate)

Στα Ελληνικά:
Διδακτορικό στη Μαθηματική Παιδεία

Στα Αγγλικά:
PhD in Mathematics Education

• Γλώσσα(ες) διδασκαλίας: Ελληνικά

• Καθεστώς Προγράμματος: Υφιστάμενο



Το παρόν έντυπο έχει ετοιμαστεί στο πλαίσιο των αρμοδιοτήτων του Φορέα Διασφάλισης και Πιστοποίησης της Ποιότητας της Ανώτερης Εκπαίδευσης, σύμφωνα με τις πρόνοιες των “περί της Διασφάλισης και Πιστοποίησης της Ποιότητας της Ανώτερης Εκπαίδευσης και της Ίδρυσης και Λειτουργίας Φορέα για Συναφή Θέματα Νόμων» του 2015 έως 2019” [N. 136 (I)/2015 έως N. 35(I)/2019].

A. Οδηγίες για το περιεχόμενο και τη δομή της έκθεσης

- Το Ίδρυμα Ανώτερης Εκπαίδευσης βασισμένο στην Έκθεση Εξωτερικής Αξιολόγησης της Επιτροπής Εξωτερικής Αξιολόγησης (ΕΕΑ) (Έντυπο.300.1.1) πρέπει να τεκμηριώσει κατά πόσον έχουν γίνει οι δέουσες ενέργειες για τη βελτίωση της ποιότητας του υπό αξιολόγηση προγράμματος σπουδών σε κάθε τομέα αξιολόγησης.
- Συγκεκριμένα, κάτω από κάθε ενότητα αξιολόγησης, το Ίδρυμα Ανώτερης Εκπαίδευσης, πρέπει να απαντήσει, χωρίς να αλλάξει τη δομή της έκθεσης, στα εξής:
 - Ευρήματα, δυνατά σημεία, σημεία που χρήζουν βελτίωσης και συστάσεις της ΕΕΑ
 - Αδυναμίες που καταγράφηκαν κάτω από τους ποιοτικούς δείκτες (κριτήρια)
 - Συμπεράσματα και καταληκτικά σχόλια της ΕΕΑ
- Η απάντηση του Ιδρύματος Ανώτερης Εκπαίδευσης θα πρέπει να βρίσκεται κάτω από τα αντίστοιχα σχόλια της ΕΕΑ, τα οποία θα πρέπει να αντιγράφονται από την Έκθεση Εξωτερικής Αξιολόγησης (Έντυπο.300.1.1).
- Αν υπάρχουν παραρτήματα, αυτά θα πρέπει να επισυνάπτονται και να αποστέλλονται ως ξεχωριστά έγγραφα.

1. Σχεδιασμός και ανάπτυξη του προγράμματος σπουδών (ESG 1.1, 1.2, 1.8, 1.9)

Findings

PA short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

The policy of quality assurance of the programme of study has a formal status and is publicly available for all. It supports the organisation of the quality assurance system through appropriate structures, regulations and processes in different levels (e.g. the level of department and faculty). Policy for quality assurance of the programme of study supports teaching staff, administrative staff and students to take their responsibilities in quality assurance by offering the university staff opportunities to reflect on the strengths and limitations of their work. Students' feedback to the university staff is regularly collected. Procedures ensure academic integrity and freedom, are vigilant against academic fraud, and they guard against intolerance of any kind of discrimination against students or staff.

The programme of study is designed in a way that is in line with the strategy of the university that intends to cover relevant fields of research and prepare students for future employment. It includes the intended learning outcomes. The process of the development of the programme is organized by involving students. It benefits from external expertise which rely on outstanding colleagues from other universities (e.g. visiting professors, collaboration partners, etc.). It reflects the purposes of the Council of Europe and aims at preparing students for employment, for personal development and for life in democratic societies. The basis for this development is the broad knowledge about how teaching, learning and instruction works, how the gender gap affects life of humans, and how important equality is for the society. The design of the programme enables a smooth student progression, the content corresponds to the level of the programme. The expected workload reflected in EDTS is appropriate. The programme is well-structured. It has been approved by the formal institutional approval processes. The programme clearly meets the qualification criteria and it refers to the appropriate level of National Qualifications Framework for Higher Education (European and of Cyprus). The programme is monitored by the instructors, department and faculty, who pay attention to adjusting the programme to new trends and needs of society and research, involving students in the revision process.

Public information about the programme is available and includes selection criteria, intended learning outcomes, qualification that is awarded after finishing the programme, and the teaching, learning and assessment procedures.

Strengths

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

The programme has a lot of strengths which cannot all be mentioned in this short summary. However, the most impressive are:

- Level of support of the teaching and administrative staff.
- Very high engagement of the teaching staff in the implementation of the standards for quality assurance system.

- High benefits through involving external experts in the programme and in suggesting how to improve it. The quality of the programme clearly benefits from that.
- Development of the system that allows a smooth students' progression through the programme. The success of the programme is reflected in the very low (3%) dropout rates.
- High qualification of the students who finished the programme. Absolvents of the PhD programme take central positions in the Ministry of Education and in research. This demonstrates that the programme works very well. Finishing of the programme increases chances to become a high-level employment in the future.
- Evaluation system implemented in the programme. This system combines face-to-face evaluation through the interviews during and after the courses and a summative assessment via standardised questionnaires.

Areas of improvement and recommendations

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

The success of the programme can be better communicated to the public. For example, we did not find information about the pass rate of the programme, which when presented to us by the coordinators of the programme, were very impressive. The organizers can, for example, consider offering short videos that make visible the goals of the programme. This may help to recruit more students to the programme in the future.

Response

R1. We thank the committee for their positive comments and for acknowledging the quality of the programme, procedures followed, high qualification of students, and very impressive pass rate of our program. We agree with the EEC members that we need to communicate the success of the programme better. Therefore, will discuss this with the Department of Education Council and the Faculty of Postgraduate Studies so that we can update our PhD programme website with a short video which will make more visible the goals of the programme, its content, success rate, and benefits. This may help in the recruitment of more students in the future.

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

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
1.1	Policy for quality assurance	Compliant
1.2	Design, approval, on-going monitoring and review	Compliant
1.3	Public information	Compliant
1.4	Information management	Compliant



ΦΟΡΕΑΣ ΔΙΑΣΦΑΛΙΣΗΣ ΚΑΙ ΠΙΣΤΟΠΟΙΗΣΗΣ ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΤΗΣ ΑΝΩΤΕΡΗΣ ΕΚΠΑΙΔΕΥΣΗΣ
CYPRUS AGENCY OF QUALITY ASSURANCE AND ACCREDITATION IN HIGHER EDUCATION



2. Διδασκαλία, μάθηση και αξιολόγηση φοιτητών (ESG 1.3)

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

All standards related to student-centred learning, teaching and assessment are met.

The programme offers a range of opportunities for students to learn and develop as school teachers, researchers, curriculum developers and decisions makers at various administrative positions. It does so through seminars, discussions, lectures and conference participation. Special attention is given in the programme to analyzing current research and its implications for educational and curriculum programs. Modern educational technologies are used in the programme and they are regularly updated. The coordinators of the programme emphasized in their presentations that the programme is flexible and adjustments are often made in course readings and assignments in order to meet individual students' needs, backgrounds and interests. Students' autonomy is encouraged by giving the opportunity to choose the topics on which they work at seminars and especially by the encouragement and the impressive support given to students to present their work at national and international conferences.

The programme aims at developing students' theoretical knowledge, understanding and professional specialization in mathematics education and developing their research skills in mathematics teaching and learning. As such, practical training centers on the practice of doing research. This kind of practical training is comprehensively provided for the students, guiding and closely mentoring students at the different stages of conducting research. In addition, the coordinators of the programs stressed that all students are offered the opportunities to reflect on theoretical approaches and their implications for instruction. Special attention is paid to analyzing current research and its implications for educational and curriculum programs, thus preparing programme graduates for curriculum development and for various decision-making roles related to mathematics education in the educational system.

Descriptions of courses are published and they include detailed information regarding course purpose and objectives, learning outcomes, prerequisites, course content including weekly schedule, and the way assessment is conducted. Review of the written information about course assessment suggests that assessment means and criteria are appropriate, transparent and support the development of the learner.

Strengths

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

- Adjustments made in course readings and assignments in order to meet individual students' needs, backgrounds and interests, for example, for students with degree in mathematics and secondary school teachers.
- The extensive support and encouragement given by faculty members to students to present their work in conferences and to publish it in academic journals.
- More than 40 master and PhD students' publications have been published in journals, among them lead journals in the field of mathematics education: *Educational Studies in Mathematics*, *Journal of Mathematical Behavior*, *Mathematical Thinking and Learning*, and *International Journal of Science and Mathematics Education*.

- More than 150 master and PhD students' publications have been published in conference proceedings, among them lead conferences in the field of mathematics education: PME and CERME.

Areas of improvement and recommendations

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

- The quality of the programme offered to students with background in primary education, which are the vast majority of participants in the programme, is of high quality. Yet, with more emphasis on aspects relevant for secondary school teaching of mathematics, the programme might be more attractive to secondary school mathematics teachers or math graduates. For example, offering courses that centre on key aspects of mathematics, such as, modelling, and courses that focus on research related to the teaching and learning of central mathematical topics in the secondary school curriculum, such as, algebra and geometry.
- Similarly, pre-primary math education, or early mathematical development does not get much attention in the contents of the programme, or in the number of students participating in the programme. Most recent developments in early mathematics education are reachable online, and these online sources could well be utilised in the programme (Eg., <https://earlymath.erikson.edu/> or <https://learningtrajectories.org/>)
- The form currently used for collecting students' feedback on courses does not provide students with the opportunity to evaluate their own contribution to learning in the course. We recommend adding a section to the form with self-evaluation of their own effort, input and self-directed learning activities during the course.

Response

R2. We thank the committee for acknowledging the high quality of the programme and procedures followed, the consideration given to students and impressive outcomes. We also appreciate the EEC members for making a suggestion of how we may attract more mathematics teachers and maths graduates in our course. We will incorporate two elective courses in our post-graduate programme which will concentrate on key aspects of secondary school curriculum, such as (1) geometry and (2) calculus. In addition to this, although we already teach modelling in EDU674: Problem Solving, we will give further emphasis. The reason that we did not do this in the past was due to the very small percentage of secondary mathematics teachers (approximately 5%) taking our PhD programme.

R3. We are grateful to the EEC committee members for offering specific material that we can include in our postgraduate programme, so as to enhance pre-primary or early mathematical development. We will incorporate this and other similar material in our existing courses in order to address the needs of post-graduate students who are interested in mathematics education for this age group. The reason that we did not include more material on these topics in our courses in the past, was that we did not have any pre-primary teachers taking our PhD programme.

R4. This is a useful suggestion, as to how we may improve the feedback that we receive from our students. The feedback form is prepared centrally by the University and more specifically by the Centre for Teaching and Learning (CTL). We will inform the Centre for Teaching and Learning (CTL) as well as the Faculty of Postgraduate studies of your suggestion and ask them to incorporate such section in their feedback form.



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

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
2.1	Process of teaching and learning and student-centred teaching methodology	Compliant
2.2	Practical training	Compliant
2.3	Student assessment	Compliant

3. Διδακτικό Προσωπικό (ESG 1.5)

Findings

Standards concerning the competence, recruitment and development of teaching staff are clearly met. Teaching staff qualifications are adequate to achieve the objectives and planned learning outcomes of the study programme. The teaching staff is regularly engaged in professional and teaching-skills training and development, for example, via the support and evaluation from Centre for Teaching and Learning (CTL), and continuous gathering of student feedback in the courses. Promotion of the teaching staff takes adequately into account the quality of their teaching, their research activity, the development of their teaching skills and their mobility. Innovation in teaching methods and the use of new technologies is encouraged, staff member's own research is clearly visible in their courses and enables demonstration of linkages across research and practice well. Conditions of employment that recognise the importance of teaching are followed. Recognised visiting teaching staff participates in teaching the study programme.

The number of the teaching staff is adequate to support the programme of study. The teaching staff status (rank, full/part time) is appropriate to offer a quality programme of study. Visiting staff number does not exceed the number of the permanent staff.

Standards in the synergies of teaching and research are met exceptionally well. The teaching staff collaborate in the fields of teaching and research within the HEI and with partners outside (practitioners in their fields, employers, and staff members at other HEIs in Cyprus or abroad). Scholarly activity to strengthen the link between education and research is encouraged and clearly visible in the accomplishments of the staff in many areas of research and practice of mathematics education. Large proportion of the teaching staff publications are within the discipline, but also within closely related STEM and educational disciplines and they are sufficiently related to the programme's courses. Based on the information provided, exact allocation of teaching hours compared to the time for research activity is not known for the staff members, thus this is not evaluated.

Strengths

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

The department has been successful in recruiting staff with great deal of international experience from top-level universities, which seems to lead to excellent level of scientific accomplishments. Their scientific research and teaching are exceptionally well-linked to the development of national curriculum and mathematics education materials as well as consultation of academic staff in the Ministry of Education. The staff has been very successful in getting international project funding for their research. Recent research of academic staff has been incorporated in teaching, while visiting scholars and research seminars with students allow following the recent developments in the field of mathematics education well. All staff submits yearly reports of their accomplishments, which represents an equal and effective strategy of the department in following the work and progress of the staff. The staff includes good combination of more senior and junior members, and they have opportunity for sabbatical, as well as participation in international collaboration and conferences.

Areas of improvement and recommendations

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

- The department could consider utilizing more of the recent developments in high-level online courses, materials and conferences available. This would enable students' and staff participation in conferences and high-level online events with little or no extra cost.
- It is not entirely clear how much workload each staff member has in teaching, research and administrative work, but it would be important at the department level, to keep on making sure the staff maintains well-being and work-life balance and receives support in handling pressures of various academic evaluations also in the future.
- The staff could possibly use of more support in guiding students in academic writing and language skills from the university, considering students' active involvement in international conferences and learning materials in English. Some universities offer mentoring for staff members. This could be considered at the department, whether the staff would benefit from this kind of support in the future.
- The EEC could not find information concerning studies about research ethics and open science policies, which would be important topics for the programme.

Response

R5. We thank the EEC committee members for their suggestion. One of the positive things that arose during these very difficult times of the COVID pandemic, was the fact that we all became more acquainted, knowledgeable and trained in on-line resources and materials which we were not using in the past. The reason that we were not using these methods and materials in the past was that the University of Cyprus, based on the Republic of Cyprus Legislations, was until recently not allowed to offer any online courses. The only public university offering on-line courses was the Open University of Cyprus. However, this year, due to the pandemic, we made a number of changes in the way we deliver our courses, communicate with our students, and modified the means and resources that we use (zoom, Microsoft teams, GeoGebra Class). After this pandemic is over, we plan to continue using a number of these resources and methods that we found useful. We will certainly incorporate more high-level online materials, online classes and communication (for instance zoom, Microsoft teams, GeoGebra class) and encourage both our staff members and students to participate in online events.

R6. It is true that just by looking at the current programme it is not entirely clear how much teaching, research and administrative work each member of staff is obliged to perform. However, the working load and time allocated to teaching, research and administration for all university staff members complies and is under the inspection of various bodies of the University as well as the government, since we are a public university.

R7. We agree with the committee that it is very helpful if staff could receive more support in guiding students' academic writing and language skills. We will discuss this issue with the Department of Education Council and Faculty of Postgraduate studies. For the time being members of the academic staff can use research funding in order to pay for English language editing. However, having such services or even extended services which can also support PhD students' academic writing, internally by the Department or University would be a great benefit both for academic staff and postgraduate students.

R8. We agree with the EEC committee that the topics of research ethics and open policies are highly important. This is why in all our Courses but especially in all the Research Methods Courses (EDU675, EDU682, EDU683, EDU780 and EDU788) we include these topics, present them, discuss them with our students and examine whether they have taken them in consideration when conducting their research studies.

In addition to this, the faculty members of our programme and their collaborators take very seriously into consideration ethical issues related to conducting research in schools and classrooms. In particular, every research project is submitted to the National Institutional Research Board (i.e., Cyprus Center of Educational Research and Evaluation) for approval; schools principals, teachers, and students' parents are asked for written active consent, and every participant has the right to withdraw from any research study at any point without any consequences. Additionally, specific steps are taken to ensure anonymity and confidentiality of all participants. Active written consent is also asked from teacher participants if we want to show specific episodes from their teaching (participants give their consent after they watch the clip that we intend on using); student faces are in all cases blurred so that they cannot be recognized. Finally, it needs to be underlined that the collection and storage of data (especially videotaped data) is in compliance with rules and regulations set by National Commissioners for the Protection of Children Rights and for the Protection of Data.

Furthermore, the University of Cyprus has established a number of policies and codes of conduct which appear on http://ucy.ac.cy/legislation/volumea/index_a7_main.htm. On this webpage, among other codes of conduct policies, one can find the following which are relevant to postgraduate studies and research ethics:

- 7. Code of conduct
 - 7.4 Code of conduct for research
 - 7.5 Policy for acceptable use of information and communication services and systems
 - 7.6 Intellectual property policy
 - 7.7 Policy for the protection of personal data
 - 7.8 Policy for applied/industrial research and provision of relevant services
 - 7.9 Code of conduct of postgraduate research studies
 - 7.10 Code of conduct in the work environment
 - 7.11 Policy for equity and anti-discrimination

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

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
3.1	Teaching staff recruitment and development	Compliant
3.2	Teaching staff number and status	Compliant
3.3	Synergies of teaching and research	Compliant

4. Φοιτητές

(ESG 1.4, 1.6, 1.7)

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

Pre-defined and published regulations regarding student admission are in place. Access policies, admission processes and criteria are implemented adequately. Pre-defined and published regulations regarding student progression are in place, with the exception of the progress in PhD research studies, which seems to be quite vaguely described. Processes and tools to collect, monitor and act on information on student progression, are in place. Pre-defined and published regulations regarding student recognition are in place. Fair recognition of higher education qualifications, periods of study and prior learning, including the recognition of non-formal and informal learning, are essential components for ensuring the students' progress in their studies, while promoting mobility. In the EEC material package received, there seems not to be information regarding to specifics about institutional practice for recognition being in line with the principles of the Lisbon Recognition Convention and cooperation with other institutions, quality assurance agencies and the national ENIC/NARIC centre with a view to ensuring coherent recognition across the country.

Pre-defined and published regulations regarding student certification are in place. Students receive certification explaining the qualification gained, including achieved learning outcomes and the context, level, content and status of the studies that were pursued and successfully completed.

Strengths

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

Overall, student admission, progression, recognition and certification are taken care of adequately. Electronical Platform used seems to be useful tool in gathering and providing detailed information about enrolment, ECTs, progress, personal details and final marks. The interviews used to make sure the candidates with their qualifications and future goals fit to the programme and staff profiles.

Areas of improvement and recommendations

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

The EEC would recommend special emphasis on advertisement of the programme and recruitment of the students due to excellent quality of the programme and its top-level results. This especially due to slight decrease of incoming students in the last years.

Response

R9. We thank the EEC committee for their excellent comments and for acknowledging the top-level results of the programme. We will place more emphasis on advertising our programme in order to recruit more students. Some actions that we will take, will be the improvement of our webpage with more clear and attractive information which will highlight the aims, content, quality, opportunities and benefits of the programme, we will advertise the programme in newspapers and educational websites (for instance, paideia.news), sent information to schools and teacher unions. We will also advertise the fact that every year, the Department of Education, as well as the University offer a small number of scholarships which may be

important for students who are interested in pursuing further studies but do not have the economic resources to do so.

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

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
4.1	Student admission, processes and criteria	Compliant
4.2	Student progression	Compliant
4.3	Student recognition	Compliant
4.4	Student certification	Compliant

5. Πόροι (ESG 1.6)

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

The department provides adequate and readily accessible teaching and learning resources (e.g. materials, aids, equipment etc.) to students. Teaching and learning resources, both physically and virtually, are available to students via a very well-resourced library. Students can also order, if needed, new material such as specialized tests (e.g. Naglieri tests, Cognitive style tests etc.) Access to teaching and learning resources is also facilitated by appropriate technical and IT support.

Furthermore, physical resources are adequate to support the study programs. The department has a clear commitment to meeting the needs of current and future learners, as indicated by a willingness to expand resources and acquire their own building in the future.

The staff resources for student support include an appropriate range of tutors and well-qualified administrative staff. The Academic Affairs and Student Welfare Service seems to be a very useful and complete service to support the students during their learning.

Strengths

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

- Overall resources and support of the studies are of a good level
- Suitable books and reputable journals supporting the programme
- Strong administrative support (e.g. psychological support, support for mature, part-time, or students with difficulties, Erasmus mobility programs etc.) across the programme

Areas of improvement and recommendations

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

- Staff was positive about teaching materials and classrooms, but not so positive about the location of the facilities. A unified department would be a good move to improve physical facilities.
- Through the online meeting with a number of representatives of both Master's and PhD's students and graduates, the committee came to the conclusion that they do not seem comfortable in speaking and communicating in English, a skill that is crucial for a future academics to possess. Based on that, we recommend that there should be more focus and approach on supporting students' academic English skills both in spoken and written form throughout the programme.

Response

R10. We fully agree with committee that the location of the Department of Education as well as some of its laboratories are spread in various areas of Nicosia. A unified department incorporated in the Main Campus of the University would improve physical facilities. It is indeed a matter of great importance and we plan to pursue this issue further. We have already discussed this matter with the university authorities, and they are

well aware of this problem and the limitations that we are currently facing. Unfortunately, the reliance on state funding does not facilitate the process of moving in more adequate facilities.

R11. We agree with the EEC committee that spoken and written English is an important skill that postgraduate students should have for their academic development. This is evident by the fact that one of the requirements for entry in our Postgraduate programme is the “very good command of the English language”. However, we will modify our requirements for the PhD programme and instead of having as an entry requirement the “very good command of the English language” we will include specific English language criteria according to the rules of the University and the relevant suggestions of CYQAA. We will discuss this modification with Department of Education Council and with the Faculty of Postgraduate studies.

In addition, more support will be given to PhD students through the new course that is now included in our programme: EDU787 Writing Academic Papers. Our students’ English language skills may also be enhanced through further seminars offered by the Department of Education or centrally by the University through the Centre for Teaching and Learning (CTL). We will discuss this issue with the Department of Education Council, the Centre for Teaching and Learning (CTL) and also the Faculty of Graduate Studies and request such seminars.

Further, to the above actions that we intend to take, we would like to make a small note. During the interviews that the EEC committee conducted with our postgraduate students, we informed our students that one of them would act as a translator, in case they felt that they needed some assistance. It appears that our students over-relied on this assistance and chose to speak in their native language (Greek), although they are competent in English. Our postgraduate students’ competence in English, is evident by the large number of publications and presentations that our postgraduate students have in English at international conferences and journals. In future interviews we will ask our students to talk in English, so as to demonstrate their command of the English language. Still, the EEC members’ recommendation will be taken in consideration and addressed in the ways described.

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

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
5.1	Teaching and Learning resources	Compliant
5.2	Physical resources	Compliant
5.3	Human support resources	Compliant
5.4	Student support	Compliant



6. Επιπρόσθετα στοιχεία για τα εξ αποστάσεως προγράμματα (Όλα τα ESG)

Click or tap here to enter text.

7. Επιπρόσθετα στοιχεία για τα διδακτορικά προγράμματα (Όλα τα ESG)

Findings

A short description of the situation in the Higher Education Institution (HEI), based on elements from the application for external evaluation and on findings from the onsite visit.

The programme for obtaining a PhD degree is very well prepared and fulfil all standards and requirements. Clear criteria future students need to meet (e.g. quality of academic career, prior achievement, ability of developing independent critical thinking) and the selection procedure are well defined. The requirements of the doctoral degree programme are carefully prepared by the authorities and they are accessible for future doctoral students. They include the stages of completion, time needed to complete the programme, examinations, courses that have to be completed (compulsory and elective), and details on the preparation, submission and obtaining the PhD degree.

Students are guided through the preparation courses (so called research stages courses) that allow a close collaboration between the students and their consulting supervisors about the expectations regarding the PhD thesis. After that, the writing stages ensure a continuous progress in students' writing process. We did not find specific guidelines about the steps of progress, etc, which we believe is an appropriate approach, as decisions about the length of each chapter and other specific details should be made based on the research topic and they cannot be set in a general way. The University uses a plagiarism software in order to ensure the originality of the work and students are informed about it. However, we could not locate any information about research ethics taught in the programme. This is an important content for PhD studies. There is a standardized procedure regarding the way the dissertation should be submitted.

The supervision of the dissertation is guaranteed on the very high quality. The composition, procedure and criteria for the formation of the advisory and examination committees are regulated through the department, faculty and university policy. The supervisors, and if needed the other members of the advisory committee, have regular meetings with the doctoral students. Doctoral students receive feedback on their research and get strong support from their supervisors. Participation in conferences is an important part of the qualification. The supervisors encourage students to submit research reports to national and international conferences and they strongly support the research process in every stage of the development of the research report. Indeed, all PhD students participate in conferences during their doctoral programme.

Strengths

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

- High professional level of the teaching staff. All course instructors have an exceptional experience in research and in teaching. They publish papers in the best journals in mathematics education and also influence educational practice in Cyprus. Thus, they can be excellent role models for the PhD students.
- Structure and content of the courses. The courses cover all essential parts that PhD students need for conducting research in an appropriate way. The courses (1) refer to the theory of mathematics education and theory in related subjects (e.g. Education or Educational Psychology), (2) include analysis of the state of the art of contemporary research in mathematics education, and (3) help to identify research gaps. Further, the courses prepare students for using research methodology in

qualitative and quantitative research on high level (e.g., grounded theory, action research, multi-level modelling, IRT-models).

- The idea of research stage courses and writing courses. The research stage courses allow dealing in a flexible way with the individual progress of students while working on their proposal. Similarly, writing courses offer the opportunity to share difficulties and demands on the written part of research papers and doctoral dissertation.
- Including a seminar by external experts into the programme. The seminar offered by an external expert from another country allows valuable new insights into the educational system, research and teaching practice from outside of Cyprus. Because of that, PhD students have an excellent opportunity to reflect on their own teaching and research experience and improve their personal skills and professional development.
- Offering an opportunity to participate at international conferences. Students have a strong support from the department for participation in international conferences, which is essential for their progress in research and teaching. By submitting, for example, a proposal for a Research Report at PME (Psychology in Mathematics Education) they get acquainted with a submission process, demands on the research, reviews, and finally with presenting their research to a wide scientific audience. Further, this enable them to communicate with researchers from all over the world. Thus, participating at international conferences address well the goals of the programme at the individual level (professional development) and at the general level of the four purposes of higher education of the Council of Europe (e.g., preparing to their life as citizens in democratic societies).
- Orientation toward international research. Although the programme is offered in Greek, the programme is based on international research on key concepts in mathematics education. The teaching staff ensures the international character of the programme by (1) selecting students who have suitable knowledge in English, (2) base their courses on research published in English, encouraging students to read and analyse report studies in English, and (3) support students during the writing process by giving them feedback on their writing, on using scientific language, etc.
- Opportunities for following individual interests. The programme demonstrates in an exceptional way how autonomy and guiding of students can be realized. On the one hand, students are welcome to choose a research area that is of interest to them. On the other hand, the supervisors guide their PhD students through the very demanding process of developing a proposal, conducting the research, and writing the dissertation.

Areas of improvement and recommendations

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

- The EEC noticed quite substantial discrepancy between English language skills in the descriptions of requirements from students in the written documents provided to us and the actual performance of (former) and current students of the programme when the EEC met with them. The programme relies on English learning materials. Thus, special emphasis on supporting students' English skills in relevant language and concepts for mathematics education literature and practice would be recommended throughout the courses of the programme both in written and in spoken forms.

Response

R12. We agree with the committee that spoken and written English is an important skill that postgraduate students should have for their academic development. This is evident by the fact that one of the requirements for entry in our Postgraduate programme is the "very good command of the English language". However, we

will modify our requirements for the PhD programme and instead of having as an entry requirement the “very good command of the English language” we will include specific English language criteria according to the rules of the University and the relevant suggestions of CYQAA. We will discuss this modification with Department of Education Council and with the Faculty of Postgraduate studies.

In addition, more support will be given to PhD Students through the new course that is now included in our programme: EDU787 Writing Academic Papers. In addition, our students’ English language skills may also be enhanced through further seminars offered by the Department of Education or centrally by the University through the Centre for Teaching and Learning (CTL). We will discuss this issue with the Department of Education Council, the Centre for Teaching and Learning (CTL) and also the Faculty of Graduate Studies and request such seminars.

Further, to the above actions that we intend to take, we would like to make a small note. During the interviews that the EEC committee conducted with our postgraduate students, we informed our students that one of them would act as a translator, in case they felt that they needed some assistance. It appears that our students over-relied on this assistance and chose to speak in their native language (Greek), although they are competent in English. Our postgraduate students’ competence in English, is evident by the large number of publications and presentations that our postgraduate students have in English at international conferences and journals. In future interviews we will ask our students to talk in English, so as to demonstrate their command of the English language. Still, the EEC members’ recommendation will be taken in consideration and addressed in the ways described.

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

Sub-area		<i>Non-compliant/ Partially Compliant/Compliant</i>
6.1	Selection criteria and requirements	Compliant
6.2	Proposal and dissertation	Compliant
6.3	Supervision and committees	Compliant



8. Επιπρόσθετα στοιχεία για τα διαπανεπιστημιακά προγράμματα (Όλα τα ESG)

Click or tap here to enter text.

B. Συμπεράσματα και καταληκτικά σχόλια

Please provide constructive conclusions and final remarks which may form the basis upon which improvements of the quality of the programme of study under review may be achieved, with emphasis on the correspondence with the EQF.

The PhD programme is fully compliant with the demands for such programmes. It fulfils all the standards and requirements formulated in the ESG and EQF. We would like to underline the high quality of the teaching staff. The achievements in teaching and research refer to (a) successful recruitment of the staff, (b) getting European funding for research, (c) publishing in high-impact journals, and (d) the international opportunities and connections provided to the PhD students. Furthermore, the department is linked very strongly to the educational practice in primary schools in the country.

We see the following areas that could benefit from careful attention and consideration: (1) adding more emphasis on specific mathematical content in the description of the courses, (2) covering all levels of the educational levels from early childhood to secondary school, (3) giving more support for academic language skills, and (4) allocating office spaces for PhD students.

Finally, the Committee was impressed with the quality, dedication, and energy of the faculty members responsible for the PhD programme in mathematics education we evaluated. The programme and its graduates reflect well on the University of Cyprus and are a source of strength for the State of Cyprus.

Response

R13. We will make amendments in our current courses descriptions to make clearer the emphasis on specific mathematical content.

R14. As we wrote earlier (in responses R2 and R3), we will incorporate two elective courses in our post-graduate programme which will concentrate on key aspects of secondary school curriculum, such as (1) geometry and (2) calculus. We will also incorporate material for early childhood mathematics in our existing courses in order to address the needs of post-graduate students who are interested in mathematics education for this age group.

R15. As we indicated earlier on (in responses R7, R11 and R12) we will modify our requirements for the PhD programme and instead of having as an entry requirement the “very good command of the English language” we will include specific English language criteria according to the rules of the University and the relevant suggestions of CYQAA. We will discuss this modification with Department of Education Council and with the Faculty of Postgraduate studies. We will also give more support for academic language skills through seminars offered by the Department of Education or centrally by the University through the Centre for Teaching and Learning (CTL). Finally, we will ask to establish services either within the Department of Education or in the University which will offer support for English language skills and writing for Postgraduate students.

R16. We agree that office spaces for PhD students are very useful and we will ask the University to make provisions for this.

Γ. Ακαδημαϊκοί εκπρόσωποι Ιδρύματος Ανώτερης Εκπαίδευσης

Όνομα	Θέση	Υπογραφή
Zacharias Zacharia, Professor	Chair of the Department	
Demetra Pitta-Pantazi, Professor	Program Coordinator	
Όνοματεπώνυμο	Θέση	

Ημερομηνία:

