

Doc. 300.1.2

Date: 16 September 2021

Higher Education Institution's Response

- **Higher Education Institution:**
UNIVERSITY OF CYPRUS
- **Town:** Nicosia
- **Programme of study**
PhD in Civil Engineering (3-8yrs, 160 ECTS, 3rd cycle)

In Greek:
Διδακτορικό Πρόγραμμα Πολιτικού Μηχανικού

In English:
PhD Civil Engineering
- **Language(s) of instruction:** Greek, English
- **Programme's status:** Currently Operating
- **Concentrations:** None



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 2019” [N. 136 (I)/2015 to N. 35(I)/2019].

A. Guidelines on content and structure of the report

- *The Higher Education Institution (HEI) based on the External Evaluation Committee's (EEC's) evaluation report (Doc.300.1.1 or 300.1.1/2 or 300.1.1/3 or 300.1.1/4) must justify whether actions have been taken in improving the quality of the programme of study in each assessment area.*
- *In particular, under each assessment area, the HEI must respond on, without changing the format of the report:*
 - *the findings, strengths, areas of improvement and recommendations of the EEC*
 - *the conclusions and final remarks noted by the EEC*
- *The HEI's response must follow below the EEC's comments, which must be copied from the external evaluation report (Doc.300.1.1 or 300.1.1/2 or 300.1.1/3 or 300.1.1/4).*
- *In case of annexes, those should be attached and sent on a separate document.*

1. Study programme and study programme's design and development (ESG 1.1, 1.2, 1.7, 1.8, 1.9)

Findings for [Doctor of Philosophy in Civil Engineering]

The quality assurance follows a 4-step process. The admission process requires a degree in BSc and MSc (or equivalent). Three letters of reference are required prior to admission. A doctoral candidate submits a PhD proposal after succeeding in 80 ECTS in coursework. This is done maximum 2 years after admission, which is based on established procedures by the department. The proposal is presented to the doctoral committee that is composed of 3 academic advisors. Finally, a PhD thesis is presented to a 5-member committee (including 2 external members). The annual admissions since 2015 involve, on average, about 2 to 3 doctoral students per year. This corroborates with the level of external funding that the department secures annually. Students are encouraged to participate in scientific conferences and events of interest to their discipline. The students are fully supported financially by the advisor in this case. At least 2 peer-reviewed journal articles should be published prior to the doctoral defense. A minimum salary has been established for doctoral students to support their studies. Drop outs have been noted based on the results of the comprehensive examination. Some drop outs have been noted because students move on to pursue a different professional career. The average time for graduation is, on average, between 5 to 6 years. Some students reach the maximum allowed period (i.e., 8-years) because of personal reasons; however, this is not the norm.

Strengths for [Doctor of Philosophy in Civil Engineering]

- 1. Several checkpoints have been established throughout the program to ensure a successful progression of the PhD student.*
- 2. Doctoral level coursework has also been established for normal flow of the program.*
- 3. Established to develop critical thinking.*
- 4. Technical writing offerings through the university center for teaching and learning are available to students; dissertation guidelines have been formally established.*
- 5. A formal training has been established for students who may be using facilities and specialized equipment as part of experimental activities. A certificate is issued in this case.*

Areas of improvement and recommendations for [Doctor of Philosophy in Civil Engineering]

EEC's comment 1:

1. The courses taught only in Greek do not help the participation of international students. This will offer the possibility to host international academic staff, giving up the opportunity to increase the research exchange. While the program is well run, few more ECTS may be considered.

HEI's response:

We agree that offering our postgraduate programs in English will definitely help attract foreign students, as well give the opportunity to host international academic staff. The University Senate (18th/2021 Senate meeting, 7/7/2021) has recently approved (**Annex P1**) the Department's request to offer all of its postgraduate programs in English provided that they get accredited by the CYQAA. Final approval by the University Council is pending (it will be in the agenda of the Council meeting of 11/10/2021). Hence, once CYQAA grants accreditation for the evaluated postgraduate programs, namely MSc/MEng in Civil Engineering and PhD in Civil Engineering, and final approval is obtained from the University Council, these programs will be offered in English from September 2022 and onward.



EEC's comment 2:

2. The department may want to consider making compulsory courses associated with ethics considerations in research as well as technical writing. These offerings are available and should be fairly easy to implement.

HEI's response:

We will explore the possibility of requiring students to follow courses pertaining to ethics and technical writing. Both topics are of high importance to doctoral candidates and young researchers.

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

Findings for [Doctor of Philosophy in Civil Engineering]

A similar structure to MSc/MEng programs is followed regarding courses with the additional guidance by the research supervisor and research advisory committee. The students take MSc courses, plus some additional PhD dedicated courses.

The intermediate control points of the comprehensive exam and the research approval aid the doctoral students to monitor their progress and provide feedback to the student as well as the respective supervisor(s). The doctoral students conduct research in funded projects. The students get the opportunity to attend conferences to disseminate their research work to a larger audience. Moreover, doctoral students are often involved as teaching assistants in various course offerings.

Strengths for [Doctor of Philosophy in Civil Engineering]

- 1. Access to high quality experimental facilities.*
- 2. Continuous feedback throughout the process with multiple checkpoints.*
- 3. Opportunities to attend conferences.*
- 4. Minimum salary requirements to ensure living expenses can be covered.*
- 5. Minimum course requirements.*

Areas of improvement and recommendations for [Doctor of Philosophy in Civil Engineering]

Nothing in particular.

3. Teaching staff (ESG 1.5)

Findings for [Doctor of Philosophy in Civil Engineering]

While the vast majority of courses are taught by teaching staff who are permanently employed by the University, there are some key courses which are taught by visiting staff with contracts just to teach that course. These staff normally have PhD degrees in the relevant subject, although some laboratory courses have staff with a masters degree (often current PhD students). The approach ensures staff are qualified to teach their courses.

All new teaching staff must attend an introduction to teaching course which is run centrally for the University. New staff are appointed with consideration of both teaching and research need and ability, and performance is monitored through research evaluations and evaluation by students for all taught courses. The member of staff who is teaching the course and Head of Department have access to the student evaluations and the Head of department is responsible for taking action if teaching is poor.

These student evaluations form part of any promotion case.

All permanent staff also conduct research, including with overseas universities, and this ensures there is a strong link between teaching and research in the department. While the final thesis is a capstone design project rather than a research project, students are offered the opportunity to undertake research over the summer which the staff fund through their research budgets or other means.

There were some concerns expressed by junior staff that the promotion criteria are not very clear. There is good informal advice available to staff seeking promotion, but no formal mentoring scheme available for new staff. Staff were under the impression that although research, teaching and administration are the three components of an academic career at the University of Cyprus, promotion is mainly based on Research. The University has only recently adopted an award for excellent teaching.

The nature of PhD research is such that research is embedded into the student work. Having taught courses based on current research topics of teaching staff ensures that the PhD students get a good start to their research studies.

Strengths for [Doctor of Philosophy in Civil Engineering]

- 1. The number of permanent staff (which has increased in recent years), and the clear passion of the staff for Civil Engineering is a strength of the department. The communication from staff to students, particularly during the COVID pandemic is a clear strength. Students were very positive about the teaching they received from staff and acknowledged that they have developed additional skills that they will be able to use both during their degree and when they work in industry.*
- 2. While it is important that the undergraduate courses are focussed around in-person (face to face) teaching (especially for laboratory based courses) it would be good practice to continue to retain teaching materials online as done through the pandemic.*
- 3. Having current experienced PhD students (who already have masters degrees) teaching some of the laboratory based undergraduate courses provides excellent career development opportunities for the PhD students, and ensures undergraduate students are taught by those who are dealing with the laboratory equipment on a more regular basis than some of the permanent academic staff.*
- 2. Although there are some small gaps in coverage, having staff able to supervise the range of PhD topics where there are research needs in Cyprus and internationally (Earthquake Engineering, Structures, Geotechnical Engineering, Transportation, etc) is important in raising the research profile of the University as well as ensuring interdisciplinary research can take place.*
- 3. Having some staff co-supervising PhD students in other departments and at other universities allows staff to gain broader experience and increase research output, and also ensures that PhD*

students can have appropriate supervision throughout their degree, particularly if their research is multidisciplinary.

Areas of improvement and recommendations for [Doctor of Philosophy in Civil Engineering]

EEC's comment 3:

- 1. While the vast majority of courses are taught by teaching staff who are permanently employed by the University, there are some key areas where there are no permanent staff. Hydrology and some aspects of hydraulics are areas which would benefit from additional staffing as this is a clear need in Cyprus with the water availability problems that it faces. Having non-permanent staff teaching this indicates to students that it is not an important area of study which is not the correct impression.*

HEI's response:

On 15/7/2021, the Department placed a request for the opening of a faculty position at the rank of lecturer or assistant professor with expertise in the field of Hydrology/Water Resources Management (**Annex P2**). The request was recently forwarded from the Rector's Council to the pertinent Personnel and Development Committee and is under examination.

EEC's comment 4:

- 1. It is recommended that before the start of the new academic year the department hold a meeting/workshop where they consider student feedback and the experience from the COVID disruption, and whether any changes introduced then should be continued. In particular the provision of learning materials online, and the recording of lectures should be considered.*

HEI's response:

The Department's undergraduate and postgraduate programs committees made efforts to arrange a 360° feedback meeting with this year's graduates, as well as current students, during the summer months following the submission of the EEC's evaluation report. However, this was proven to be difficult due to unavailability given that it was the summer break period. The CEE department has decided (10th/2021 Departmental Board meeting, **Annex P3**) to hold a 360° feedback meeting with students and recent graduates at the end of each academic year (end of May).

EEC's comment 5:

- 2. While teaching staff will approach teaching in different ways and it is an important part of the student experience to experience different teaching styles, there should still be some level of consistency such as agreeing to use Blackboard or Teams for provision of learning materials and for student submissions of coursework. A discussion should also be had with incoming students to explain the teaching approach and show the range of civil engineering and how this will be addressed in their programme.*

HEI's response:

Nearly all teaching staff have a dedicated online Blackboard space for each course, where teaching material can be posted. At the beginning of each Fall semester an orientation session is held (under the auspices of the UCY's Academic Affairs and Student Welfare Service) for the incoming undergraduate students. The teaching approach, the range of civil engineering and how this will be addressed in the program are presented and explained during this session by either the undergraduate program coordinator or the Department Head.

EEC's comment 6:

5. While not teaching staff, there appears to be a shortage of technical staff who are needed to support the work of the teaching staff and ensure that the students are able to meet all the practical requirements of a civil engineering degree. This is not only detrimental to the learning experience of students but is also a potential safety concern. It is recommended that the provision of technical staff be reviewed from both a student learning and safety perspective.

HEI's response:

The Department acknowledges the serious shortcoming in adequate staffing of the laboratories. Since its establishment, the goal of the Department was to operate with one lab manager and two technicians and has constantly demanded to raise the number of lab technicians from one to two. Following EEC evaluation, the CEE Department requested on 15/7/2021 the hiring of one more technician (**Annex P4**). The minimum qualifications of the technician will be a technology degree (civil or mechanical). Until the move to the new Engineering School buildings, the Department requested the new technician to serve the needs of both laboratory locations, spending 3 days at the laboratories located in the old campus and 2 days in the Strovolos laboratories. Until the hiring of the lab technician, the need will be covered temporarily by hiring of an administrative support special scientist under a 1-year contract. The Vice-Rector for International Affairs, Finance and Administration has affirmed that will support both our requests (for technician and, in the meantime for a special scientist) to the pertinent committees and approval bodies (**Annex B5**). Provided final approval is granted, the administrative support special scientist is expected to begin work by January 2022.

EEC's comment 7:

2. Having no permanent staff in the area of hydrology (an extremely important field in Cyprus) does mean that it is unlikely that PhD students interested in this topic will register at the University, and employing a member of staff in hydrology should be considered.

HEI's response:

Please see response to EEC's comment 3.

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

Findings for [Doctor of Philosophy in Civil Engineering]

Approximately 2.6 students per year are admitted.

80 ECTS credits from courses 160 from the thesis.

The applications are evaluated by a departmental Board. Within 2 years from admission in the program the students have to have completed 80 ECTS from courses, and go through comprehensive Exams that cover 3 subjects relevant to the PhD topic. There is another evaluation step where a research proposal is submitted to a committee of 3 academic advisors. Finally there is an examination by a PhD Examination committee involving two members from the Department and two externals. The Defence is public.

The maximum allowed time to complete the PhD is 8 years. Typically this corresponds to including times for leave or part-time completion of the PhD.

A student can choose to leave the PhD program having completed the ECTS requirements and can be awarded with MEng.

The qualification exams can be repeated for a maximum of 2 times. A failing student can be awarded an MEng if they have successfully completed the corresponding credits.

At admission the student needs to be a holder of BSc or MSc in Civil or related backgrounds. Students can transfer up to 56 maximum ECTS depending on their background, non-Civil Engineering students can get only up to 32 ECTS transferred. This recognition of points is approved by a committee.

There is a seminar on ethics. The University Centre for Student Learning offers optional courses on technical writing, ethics and career development which are optional. There is a Safety induction course for students doing experimental projects.

Strengths for [Doctor of Philosophy in Civil Engineering]

-A good number of students admitted per year which allows the supervisors to sustain group's of reasonable size and produce outputs.

-The admission process is well organized.

-There is a well-defined process of transfer of credits which is known to the students before admission.

-A very well-organized progression process for PhD students with several examination committees.

-The PhD students are supported by several student support centres.

-The new building and the new experimental facilities will also improve the support of PhD students.

Areas of improvement and recommendations for [Doctor of Philosophy in Civil Engineering]

EEC's comment 8:

A potential area of improvement for the PhD programme is that of increasing the numbers of admitted students. The Faculty is working towards that direction, and applying for more European Grants will help.

HEI's response:

We agree with the EEC's recommendation. The Department will encourage faculty members to apply for European funding in the future. In the next year's (2022) financial budget, which will be prepared in the following months, we plan to include a provision that will cover the cost of proposal writing training for a number of faculty members of the Department, with priority to tenure-track faculty.

5. Learning resources and student support (ESG 1.6)

Findings for [Doctor of Philosophy in Civil Engineering]

The same key findings as in the Bachelor programme of Science in Civil and Environmental Engineering have been identified.

In addition to these the following should be pointed out:

- *Adequate resources (specialized software, lab equipment and consumables) for supporting PhD students experimental work are available.*
- *Many PhD students are actively engaged in the ongoing research projects of the faculty members and some of them contribute in the teaching procedure (mostly related to the experimental teaching courses) as Special Scientists after being evaluated in open procedures.*

Strengths for [Doctor of Philosophy in Civil Engineering]

In addition to the ones already noted for the Bachelor programme of Science in Civil and Environmental Engineering the following should be also pointed out:

- *The resources to support PhD students' experimental work (lab equipment, consumables, specialized software, etc) are sufficient.*
- *Most PhD students are actively engaged in the ongoing research projects run by faculty members.*
- *PhD students that serve as Special Scientist in teaching acquire several skills.*

Areas of improvement and recommendations for [Doctor of Philosophy in Civil Engineering]

No major weak points have been identified in PhD programme's learning and students support procedures.

6. Additional for doctoral programmes (ALL 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 system for PhD students is well run and clear from admissions all the way to the final submission. There are a number of elements that are not formally documented but which make sense for both the University and students. For example, personal circumstances are looked at after the comprehensive exam if a student fails or elects not to continue because of personal circumstances. The option of an MEng or MSc is looked at if they do not already have one from the University of Cyprus - this may require additional work by the student but provides the opportunity to gain recognition for the work they have completed.

The admissions process involves a discussion with the Academic Advisor to agree on which taught courses are taken so that the initial research idea can be developed into a proposal at a later date. The factor limiting admissions appears to be the number of suitable applicants rather than a shortage of staff or facility (especially laboratory) capacity.

The research topics are appropriate for a PhD in civil engineering, and cover the breadth of the subject. The topics are relevant both internationally and within the Cyprus context. The Department tries to ensure topics are focused on the problems faced in Cyprus so that they can make a difference in society.

The Department indicated that they feel the major reasons they cannot recruit more PhD students are because of some of the taught components being in Greek which limits the pool of overseas applicants, and because some PhD students could attract higher salaries if they worked in industry.

Strengths

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

- 1. The focus of the topics on areas of research that are relevant to the particular situation in Cyprus is a clear strength.*
- 2. The support provided to PhD students through the entire process, from application to completion is at a high level.*

Areas of improvement and recommendations

EEC's comment 9:

1. As indicated in the staffing section of this report, it is difficult to supervise PhD students in hydrology as there are no permanent staff in this area. This is a key area of research for Cyprus and limiting research in this area. Appointing a member of staff in this area should be considered.

HEI's response:

On 15/7/2021, the Department placed a request for the opening of a faculty position at the rank of lecturer or assistant professor with expertise in the field of Hydrology/Water Resources Management (**Annex P2**). The request was recently forwarded from the Rector's Council to the pertinent Personnel and Development Committee and is under examination.

EEC's comment 10:

2. As currently being discussed in the department, the option to change postgraduate teaching to English should be considered as this will open the market for more overseas PhD students. This



decision will involve a number of political and other considerations, but is likely to be the only way that PhD numbers can increase.

HEI's response:

The University Senate (18th/2021 Senate meeting, 7/7/2021) has recently approved (**Annex P1**) the Department's request to offer all of its postgraduate programs in English provided that they get accredited by the CYQAA. Final approval by the University Council is pending (it will be in the agenda of the Council meeting of 11/10/2021). Hence, once CYQAA grants accreditation for the evaluated postgraduate programs, namely MSc/MEng in Civil Engineering and PhD in Civil Engineering, and final approval is obtained from the University Council, these programs will be offered in English from September 2022 and onward.

B. Conclusions and final remarks

The faculty along with graduate students publish their scientific results in peer-reviewed journals in the field of discipline and promote open science.

EEC's comment 11:

However, the EEC members noticed a gradual decline in admission over the past 5 years. While this may be related to the economic crisis, the department should monitor this carefully. Same findings hold true in the PhD admission.

HEI's response:

We believe that offering the PhD program in English from September 2022 onwards will help increase the number of annual PhD admissions. Further improvement can be achieved with the hiring of a faculty member with expertise in Hydrology/Water Resources Management in the near future and in another one in the field of energy efficiency of buildings in 2 or 3 years from now.

A number of recommendations are suggested for consideration to ensure the future evolution of all programmes. These recommendations are summarized as follows:

EEC's comment 12:

1. Potentially new hiring of professors in core areas such as, water resources and management, energy efficiency of buildings, transportation systems with emphasis on road safety could be an asset to offer more opportunities particularly at the graduate and postgraduate level.

HEI's response:

On 15/7/2021, the Department placed a request for the opening of a faculty position at the rank of lecturer or assistant professor with expertise in the field of Hydrology/Water Resources Management (**Annex P2**). The request was recently forwarded from the Rector's Council to the pertinent Personnel and Development Committee and is under examination. The Department has set as a second priority the opening of a faculty position in the field of energy efficiency of buildings.

A second faculty position in the field of transportation engineering (i.e. in addition to the existing one) is not part of the strategic plan of the Department. However, there is currently an effort at Engineering School level to open a faculty position in the related, more advanced field of "smart cities".

EEC's comment 13:

2. Course offerings in English should be seriously considered to ensure the attraction and potential increase of high-caliber international students. Student diversity is anticipated to be augmented as well in this way.

HEI's response:

Please see response to EEC's comment 10.

EEC's comment 14:

4. A formal junior faculty mentoring system should be established to provide guidance in tenure/promotion requirements early on in the process.

HEI's response:

The Departmental Board discussed in detail in the 8th/2021 Departmental Board meeting (27/7/2021, **Annex P6**) the EEC's recommendation of establishing formal mentoring of junior staff. The vast majority of the board members were not in favor of formal mentorship because it is felt that it will give rise to complexities that will work to the detriment of the junior staff and the Department as a whole. Nonetheless, junior academic staff are strongly encouraged to seek counseling and advice on a variety of academic matters, including those pertaining to promotion, from at least two senior members, so that each junior member could synthesize the opinions and come up with informed decisions on his/her own.

EEC's comment 15:

6. Potential future improvements with regard to digital resources in education (e.g., Massive Open Online Courses) as well as considerations in the graduate and post-graduate programmes. These could easily be organized in English.

HEI's response:

We will explore this possibility once our postgraduate program start to be offered in English in September 2022.

EEC's comment 16:

8. It is recommended that before the start of the new academic year the department holds a meeting/workshop where they consider student feedback and the experience from the COVID disruption, and whether any changes introduced then should be continued. In particular the provision of learning materials online, and the recording of lectures should be considered. While teaching staff will approach teaching in different ways and it is an important part of the student experience to experience different teaching styles, there should still be some level of consistency such as agreeing to use Blackboard or Teams for provision of learning materials and for student submissions of coursework.

HEI's response:

Please see response to EEC's comments 4 and 5.

EEC's comment 17:

9. While not teaching staff, there appears to be a shortage of technical staff who may be needed to support the work of the teaching staff and ensure that the students are able to meet all the practical requirements of a civil engineering degree. However, this should be carefully examined and coordinated with the university particularly when the new experimental facilities become available.

HEI's response:

The Department acknowledges the serious shortcoming in adequate staffing of the laboratories. Since its establishment, the goal of the Department was to operate with one lab manager and two technicians and has constantly demanded to raise the number of lab technicians from one to two. Following EEC evaluation, the CEE Department requested on 15/7/2021 the hiring of one more technician (**Annex P4**). The minimum qualifications of the technician will a technology degree (civil or mechanical). Until the move to the new Engineering School buildings, the Department requested the new technician to serve the needs of both laboratory locations, spending 3 days at the laboratories located in the old campus and 2 days in the Strovolos laboratories. Until the hiring of the lab technician, the need will be covered temporarily by hiring of an administrative support special scientist under a 1-year contract. The Vice-Rector for International Affairs, Finance and Administration has affirmed that will support both our requests (for technician and, in the

meantime for a special scientist) to the pertinent committees and approval bodies (**Annex P5**). Provided final approval is granted, the administrative support special scientist is expected to begin work by January 2022.

EEC's comment 18:

10. Some of the MSc/MEng courses have very low attendance (<5 students) and these may not be cost-effective to teach. On the other hand, teaching in English may lead to an increase in enrollment. This could also be complemented with an increase in submission of applications for external competitive funding (e.g., EU Horizon) so as the number of PhD students could also rise.

HEI's response:

We agree with the EEC's recommendation. The Department will encourage faculty members to apply for European funding in the future. In the next year's (2022) financial budget, which will be prepared in the following months, we plan to include a provision that will cover the cost of proposal writing training for a number of faculty members of the Department, with priority to tenure-track faculty.



C. Higher Education Institution academic representatives

<i>Name</i>	<i>Position</i>	<i>Signature</i>
Dimitrios Loukidis	Associate Professor, Head of Civil & Environmental Engineering Department	
Loukas Dimitriou	Assistant Professor, Postgraduate Programs Coordinator	
Click to enter Name	Click to enter Position	
Click to enter Name	Click to enter Position	
Click to enter Name	Click to enter Position	
Click to enter Name	Click to enter Position	

Date: 16 September 2021

