

Doc. 300.1.2

Date: Date.

# Higher Education Institution's Response

Higher Education Institution:

The Cyprus Institute

- Town: Nicosia
- School/Faculty (if applicable):
- Department/ Sector: The Cyprus Institute Graduate
   School/ Private Institute of Tertiary Education
- Programme of study- Name (Duration, ECTS, Cycle)

In Greek:

#### In English:

Master's in High Performance Computing and Machine Learning (1 Academic Year, 90 ECTS, Master's (MSc))

• Language(s) of instruction: English

KYΠΡΙΑΚΗ ΔΗΜΟΚΡΑΤΙΑ REPUBLIC OF CYPRUS

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The present document has been prepared within the framework of the authority and competencies of the Cyprus Agency of Quality Assurance and Accreditation in Higher Education, according to the provisions of the "Quality Assurance and Accreditation of Higher Education and the Establishment and Operation of an Agency on Related Matters Laws" of 2015 to 2021 [L.136(I)/2015 – L.132(I)/2021].

#### A. Guidelines on content and structure of the report

- The Higher Education Institution (HEI) based on the External Evaluation Committee's (EEC's) evaluation report (Doc.300.1.1 or 300.1.1/1 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. The answers' documentation should be brief and accurate and supported by the relevant documentation. Referral to annexes should be made only when necessary.
- In particular, under each assessment area and by using the 2<sup>nd</sup> column of each table, the HEI must respond on the following:
  - the areas of improvement and recommendations of the EEC
  - the conclusions and final remarks noted by the EEC
- The institution should respond to the EEC comments, in the designated area next each comment.
   The comments of the EEC should be copied from the EEC report <u>without any interference</u> in the content.
- In case of annexes, those should be attached and sent on separate document(s). Each document should be in \*.pdf format and named as annex1, annex2, etc.

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

Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
The institute's QA policy supports administrative staff to take on their responsibilities in QA only through their participation in two committees: the Administrative Committee (which reports to the Associate Provost and which is responsible for the operation of the Graduate School through the development and implementation of an annual workplan with deliverables and key performance indicators), and the Erasmus Committee (which reports to the Dean and which focuses on Erasmus related issues). Administrative staff is represented in the Administrative Committee by one member, who is the Finance and Account Manager. Administrative staff is represented in the Erasmus Committee by one member from the administration. Therefore, in the current structure, the only opportunity for the administrative body to elect their own representative in QA is through their participation in the Erasmus committee. The scope of that committee is limited to Erasmus related issues. The EEC recommends that administrative staff be represented more strongly in the committees that report directly to the Provost or Associate Provost, and that this representation be not by appointment according to their specific position in the administration, but by self-election from the administration staff.	We would like to thank very much the EEC for the constructive feedback on the membership of the Cyl Graduate School committees. We would like to bring to the attention of the EEC that there are seven Graduate School committees and all report to the Provost. These are the Academic Committee, the Internal Quality Committee, the Disciplinary Committee, the Administrative Committee, the Erasmus Committee and the Library Committees of the Graduate School is to safeguard the smooth and effective operation of the School by ensuring that policies and procedures in each respective area are followed professionally and consistently. They help plan, monitor, and oversee the activities that enhance the School's overall development, and performance and contribute to the achievement of its organizational objectives. The membership of each of these committees is based on national guidelines set by the Ministry of Education, Culture, Sports and Youth (MOESY) and by the CYQAA, and follows the Internal Regulations of the Cyl as a Private Institute of Tertiary Education.  However, taking into consideration the suggestion of the EEC, with the beginning of the new academic year, 2024-2025, we will include a stronger representation of the administrative staff in the Graduate School committees. Where feasible and without jeopardizing the quality standards of the operation of each	Choose level of compliance:





	committee, the members will be assigned to the committees through election and not through appointment, always complying with the CYQAA and MOESY policies.	
The EEC recommends that the following information be specified in the QA policy of the institute:  - The length of term for each member in each committee  - The frequency of meetings for each committee  - Information on the minimum number of members who must be present, in order for the committee meeting to take place  In addition, the EEC recommends that the presence of the student representative in committees that include a student member be compulsory in order for a committee meeting to take place, to ensure that student representation is actively enforced at all times.	<ul> <li>Each member shall typically serve for 2 years in a specific committee. The possibility of extension will exist based on expertise and needs.</li> <li>The frequency of meetings for each committee has been added in the Educational Quality Management System (attached)</li> <li>For a committee meeting to take place there must be a quorum which is defined as at least 50% of the members being present. If a lower number of members are present, the meeting will be adjourned (this is also added in the EQMS).</li> <li>The Graduate School endorses the recommendation of the EEC that the presence of the student representative in committees that include a student member be compulsory in order for a committee meeting to take place, in order to ensure that student representation is actively enforced at all times (this is also added in the EQMS).</li> </ul>	Choose level of compliance:
There is a Disciplinary committee in place that, according to the institute's QA policy: "is involved in	Following the suggestion of the EEC, the EQMS has been revised accordingly (attached).	Choose level of compliance:
the disciplinary procedure only if it is decided by senior management in order to address a disciplinary	Briefly, for a) The Provost together with the Head of the Office of	
offence". The EEC recommends that this phrasing be amended in order to clarify precisely a) who in the	Graduate Studies based on the nature, severity and type of misconduct reported, decide	





senior management makes this decision, and b) that, prior to investigation by the Disciplinary committee, the event should be described as an incident, or suspected disciplinary offence.	whether it's going to be forwarded for further investigation/discussion to one or more of the following: Disciplinary Committee, Academic Committee, Program Coordinator, student(s)' supervisor(s) or if they will handle the matter directly.  b) Prior to the investigation by the Disciplinary Committee and since it merits this type of investigation, it is described as a suspected disciplinary offense.	
The EEC further recommends that the description of the Disciplinary committee's role in the QA policy makes explicit mention of the committee's commitment to i) guard against intolerance of any kind or discrimination against students or staff, and ii) be vigilant against academic fraud.  The EEC recommends that vigilance against academic fraud be further supported by amending the description of the Academic committee's role in the institute's QA policy, in order to state explicitly the committee's role in ensuring academic integrity and freedom.	Following the suggestion of the EEC, the EQMS has been revised accordingly (attached). The second point about the vigilance against academic fraud was added to the mandate of the Academic Committee since all misconduct cases that are of academic nature are handled by this, while any behavioral misconduct cases are handled by the Disciplinary Committee.	
The EEC recommends that the institute's QA policy be amended in order to specify precisely what is the composition, duration of term and frequency of meetings of the School Council.	The existence of the statute of the Student Council is imposed by the relevant legislation of MOESY and the mandate of the Council is also stipulated by the law. According to the law, the Council advises the owner and director of the institution on every matter concerning: <ul> <li>syllabi of the programs of study of the institution;</li> <li>the criteria for admission, promotion, and graduation of the students of the institution;</li> </ul>	Choose level of compliance:



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- the internal rules for the operation of the institution; and
- any other matter referred to it by the owner of the institution.

According to the Internal Regulations of the Cyl Graduate School, the composition of the School Council is the following: The school's council is made up of eight members: The School Director (Chair), two elected faculty members (25%), an elected student representative and four (50%) members from the Cyl Board of Directors.

As the MOESY is currently conducting a general revision of the current legislation governing the Higher Education Institutes in Cyprus and is also considering the establishment of new laws, the Cyl first expects the announcement of the changes in the legislation at the national level in order to better define the details of the role of the School Council, its duration of term and the frequency of its meetings.

The EEC recommends that external stakeholders, other than CY.Q.A.A., such as external academic, research, industrial, technological, societal and other relevant partners are carefully selected and invited to provide input to the programme of study. From discussions with the programme coordinator, it appears that this practice has already taken place for the programme under assessment. The committee applauds this, and recommends that initiatives along this line be done, not in an ad hoc way, but as part of the institute's formal QA policy, which should be amended to explicitly support the involvement

As the Program coordinator explained, external stakeholders from the industry and the academia have already been involved in the design of the updated curriculum. However, taking into consideration the recommendation of the EEC, the Design of New Programs procedure and the Modification of Existing Programs procedure have been modified to officially include the involvement of such external partners (in attached EQMS).

Choose level of compliance:





of such external stakeholders		
through appropriate formal		
structures.		
While the programme's design	For the program's design, the	
benefited from input from	feedback that is continuously	
academics (including newly hired)	received from students in terms of	
and industry, student input was	courses, instructors, resources and	
limited to the single student	curriculum is taken into	
member of the Internal Quality	consideration. However, we	
committee, as per the QA policy of	understand the value of a more	
the institute. Faculty members	structured involvement of students	
stated that they also considered	in the design and revision of the	
student feedback on existing	program as the EEC suggests, and	
courses or programmes (from	therefore, students will be heavily	
questionnaires) when designing the	involved via focus groups, interviews	
programme. The EEC recommends	and open floor discussions in the	
that student involvement in the	design and revision of programs.	
programme design and revision be		
further strengthened, for instance		
via focus groups, interviews and		
open floor discussions.		
Student workload is specified in	The total number of weeks of all	
terms of ECTS. Course descriptions	courses is included in Table 2 of the	
include the amount and duration (in	application and each course	
hours) of lectures per week, and the	description in the application (Annex	
amount and duration (in hours) of	2). This will also be available on the	
labs per week.	website upon re-accreditation.	
The total number of weeks of each		
course is not always stated.	As stated in the Program Handbook,	
The EEC recommends that the total	in terms of workload the following	
expected student workload is also	applies:	
included (to clarify the convergence		
to ECTS), broken down as follows:	Example of calculation for a typical	
Number of total lecture hours	10 ECTS = 350 hours workload	
Number of total preparation	10 ECTS = 250 hours workload	
hours	Breakdown of the 10 ECTS/250	
· Number of total hours spent in	hours:	
coursework	Taught Hours (contact): 14 Weeks of	
Number of total hours spent in	teaching, 3 hours classes/week = 42 hours	
exam preparation	- 42 HUUIS	
· Number of total hours spent in	Non-contact hours:	
exam  This point should be amended for all	42 x 4* = 168 hours	
·	42 x 4 - 100 HOUIS	
courses.	Coursework (e.g. 2 access), 40 hours	
	Coursework (e.g. 2 essays): 40 hours	





In addition, all courses should state	Total workload: 250 hours	
the pass rates.		
	*Each contact hour corresponds to 4 non-	
	contact hours i.e. for every teaching hour 4	
	hours are needed for preparation,	
	note keeping, exam preparation, exam	
	duration etc.	
	Pass rate for all courses is 5/10.	
There is an insufficient number of	This is a very important comment.	
compulsory courses in Machine	Following the recommendation of the	
Learning/AI.	EEC to increase the content of machine	
It is recommended to offer some of	learning / AI in the program, we	
the elective courses	modified the compulsory course entitled	
	"Machine Learning" (SDS 408)	
(e.g., Deep Learning) as mandatory	extending its content and, accordingly,	
to rebalance the programme.	its duration from 7 to 14 weeks. The	
	new course now has 10 ECTS instead of	
The EEC suggests the introduction	5 ECTS (attached course description).	
of a specific new course on "High		
Performance Machine Learning" to	We thank the EEC for this useful	
provide a link between the two	comment. Following their suggestion,	
fields represented in the proposed	we included a new course entitled:	
	"High Performance Computing in	
title as well as a unique selling point	Machine Learning'. The new course	
with respect to other local	aims to (a) Provide the students with	
competitor programmes in the area	the necessary computer programming	
of Machine Learning.	and software engineering background	
	to solve complex problems using high	
	performance computing (HPC), and	
	Machine Learning (ML) methods, and	
	(b) introduce the use of HPC	
	infrastructures to get the best	
	=	
	performance out of different machine	
	learning tools with several hands-on	
	sessions (attached course description).	

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

Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
The EEC recommends the introduction of deadlines to return coursework marks and feedback, and to make it compulsory to write some written feedback along with marks in coursework and midterm exams.	As part of our updated policy, an official deadline of 2 weeks has been provided to all instructors for the submission of exams/coursework marks along with written feedback.	Choose level of compliance:
The EEC recommends the Introduction of internal peer moderation of exam papers and to provide model answers.	Considering the recommendation of the EEC, from the new academic year 2024-2025, for each course, the program coordinator will assign an internal moderator for exams/coursework based on expertise (if there isn't any internal availability, the program coordinator may suggest options for external moderators for certain courses).	Choose level of compliance:
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### 3. Teaching staff

(ESG 1.5)

Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
The low student-staff ratio which is presented as a virtue is the result of declining student numbers in the last 2 years. This needs to be addressed urgently. Currently, the MSc programme is viewed primarily as a recruiting ground for the PhD programme. This need not be at the exclusion of offering the MSc degree as an end in itself for students who wish to crossover from other STEM disciplines or gain specialist training in this area. A market-led degree, which combines elements of Computation Science, High-performance Computing and Machine Learning, and which is badged appropriately and marketed attractively will almost certainly be successful in attracting larger student numbers than hitherto has been the case. The academics will also have a larger pool from which to select doctoral students which seems to be an important concern.	At the Cyl we are aware of the issue of low student numbers in the master's programs. Unfortunately, this is a general phenomenon which is observed in master's programs in many higher education institutes in Cyprus and abroad. The additional challenges that Cyl faces in attracting students include the lack of an undergraduate pool of students to attract from and the fact that the Cyl is a young institution with a short presence in Cyprus. As part of our efforts to increase students' numbers we have already started adding new promotional activities to our recruitment campaign both in Cyprus and internationally and these will be further intensified since a larger financial commitment will be made.	Choose level of compliance:
The EEC recommends the introduction of formal pedagogical and didactic training and development for all teaching staff. Currently there is a mentor scheme for new faculty, who are partnered with more senior faculty in order to receive general guidance and mentorship. This is commendable, however training by experts in university pedagogics should be introduced.	Taking into consideration the advice of the EEC, we have explored different options for providing our teaching staff with pedagogical and didactic training and several opportunities for training and development will be available from the next academic year.	Choose level of compliance:





Not all teaching staff (faculty and researchers) have their CVs on the institution's website. The EEC recommends that this is amended.	This is done.	Choose level of compliance:
The current gender imbalance in the student population should be addressed.	Gender disparity is a general phenomenon in STEM fields. As part of our efforts to address this gender gap in the program we implement various strategies which include: organizing every year a Scientific Fair where all local schools are invited and encouraged to participate, thus, introducing girls to scientific subjects early on to help dispel the stereotypes associated with STEM, advertise the educational programs to female students groups/societies, encourage girls from the Cyl professional networks to apply to the Cyl Graduate School and others.	Choose level of compliance:
Click or tap here to enter text.	Click or tap here to enter text.	Choose level of compliance:

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

Actions Taken by the Institution	For Official Use ONLY
We understand the explanation	Choose level of compliance:
provided by the EEC. Both points	
have been removed from the	
website from all relevant pages.	
	We understand the explanation provided by the EEC. Both points have been removed from the





institute's research activities and the applicants' own research interests. The above should be expected from Master's graduates, but not from Bachelor's graduates. The EEC finds this expectation unsuitable as part of the process for admitting students to this MSc programme. While graduates of this programme may proceed into research, not all of them should be assumed to be on that path, and the process for student admittance should reflect this.		
The number of international students should be increased by developing and adopting a marketing strategy. For example, the strong reputation and relation with some research partners should be leveraged, some relevant overseas Departments and BSc programmes should be identified as potential targets for an advertisement campaign.	As described above, a more intensified recruitment campaign has been planned. This includes leveraging on our already existing collaborations and partnerships with whom we offer joint PhD degrees, work on common projects, implement student and staff exchanges, etc. Targeted events and activities will be designed and implemented in conjunction with these partners with the aim to attract postgraduate students from their organizations.	Choose level of compliance:
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# **5.** Learning resources and student support *(ESG 1.6)*

Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
The connection with industry is enforced by the mandatory internship, however offering career counseling services and having accessible contact information of alumni that pursued a career in industry, would encourage the students to explore the many future options that are unlocked through this program.	Although we take very seriously the recommendation of the EEC to offer career counseling services to our students, at the moment establishing a dedicated unit is not within the strategic plan of the Graduate School based on the low number of students. Currently, our students receive career advice from their supervisors and the extended faculty body that are very well acquainted with the market needs and career pathways in their field. However, in the long term and when student numbers increase a Career Counseling Office will certainly be established at the Graduate School.  The contact information of our alumni is already accessible through the Office of Graduate Studies, which maintains detailed and updated records of all our alumni in terms of their employment.  Additionally, the Graduate School will collaborate closely with the Innovation Office of Cyl on developing a strategic plan to connect students with Cyl's extensive network of industrial partners. This will involve introducing students to potential employers through organized events, arranging campus interviews, etc.  As explained above, taking into	Choose level of compliance:
Faculty and staff members are experienced researchers and knowledgeable individuals. However, with the exception of previous teaching experience in other institutions, there is no policy	consideration the advice of the EEC, we have explored different options for providing our teaching staff with pedagogical and didactic training and several opportunities for training and development will be	







for training the new lecturers to improve their teaching skills. Opportunities for seminars could be offered to the teaching staff.	available from the next academic year.	
Wheelchair access is not facilitated in the building of the Graduate School, where the programme's teaching takes place. The first floor is entirely inaccessible to wheelchairs. The ground floor is partly accessible. Part of the ground floor is elevated. This elevation is not high, it is however prohibitive to wheelchair access. The EEC recommends that this be remedied.	We would like to clarify that the ground floor of the Graduate School, where all teaching rooms are located, has wheelchair access. The first floor of the building doesn't offer wheelchair access but this accommodates personal students study areas, while these can also be accommodated on the ground floor if the need arises. Similarly, access to the elevated part of the ground floor which leads to the kitchen, will be also accommodated for wheelchairs through the addition of a ramp when the need arises.  The rest of the campus's buildings, where the labs and meeting rooms are located, also offer full wheelchair access.	Choose level of compliance:
In the future, when the number of students increases, a formal T&L Committee to monitor the T&L processes, curriculum review and resources at all stages taking into account the student and staff feedback should be considered. It is recommended to have in place procedures, appropriate training, guidance and support, for teaching staff, to enable teaching staff to efficiently and appropriately support the educational process.	As per the recommendation of the EEC, in the future when the number of students increases, a formal T&L Committee will be established. Currently, this is part of the mandate of the Academic Committee and the Internal Quality Committee. The implementation of the policies and procedures described in the EQMS is carefully monitored.	Choose level of compliance:
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# **6. Additional for doctoral programmes** (ALL ESG)

Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
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## 7. Eligibility (Joint programme)

(ALL ESG)

Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
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#### B. Conclusions and final remarks

Conclusions and final remarks by EEC	Actions Taken by the Institution	For Official Use ONLY
The Cyprus Institute houses the national High Performance Computing Centre in Cyprus. The CaSToRC staff have expertise in Computational Science, High Performance Computing and Machine Learning, all topics which are currently in vogue and in high demand. CaSToRC has a thriving research and doctoral programme with all PhD students supported financially, and external collaboration with the University of Illinois at Urbana Champaign, USA. It is therefore surprising and a matter of concern that the student numbers are low and are falling in the last two years in the current MSc programme.	Comments regarding the low number of students have been addresses above. Again, we are grateful to the EEC for the constructive feedback.	Choose level of compliance:
The content of the programme should reflect a balance between Computational Science/High Performance Computing and Machine Learning.	Overall, to provide a better balance between the different tracks of the program, we performed the following changes in the curriculum of the program:  (a) Extend the duration and the content, of the compulsory course entitled 'Machine Learning' (SDS 408) from 7 to 14 weeks, and change its ECTS from 5 to 10)  (b) Decrease the duration, and therefore the content, of the compulsory course 'SDS 405: Computational Modelling and Algorithms" from 14 to 7 weeks, and the ECTS from 10 to 5 (attached course description).  (c) Introduce a new elective course 'SDS 427: High Performance Computing in Machine Learning'.	Choose level of compliance:





	We believe that the above changes in the curriculum reflect a better balance between the two main tracks (Computational Science/High Performance Computing and Machine Learning) of the new MSc program.	
Particular attention and resources should be directed at marketing the programme strategically to students in a catchment area within 3-4 hours flying distance of Cyprus. The EEC recommends that the Institute management produce a strategic plan for expansion of the MSc programme over the next 5 years (in conjunction with their plans for increasing Faculty and doctoral student numbers over the same period) which is monitored at regular intervals to realise the enormous potential for the proposed MSc programme.	It is crucial that a strategic plan for the expansion of the MSc program aligns with the Institute's overall plans to increase the number of faculty, teaching staff, and doctoral student numbers.  This is something very important not only for the current program, but for the other MSc programs of the Institute as well.  Therefore, the Institute management (Board of Directors, Provost, Coordinators of educational programs, Academic Committee, etc.) is currently in the process of formulating a strategic plan for the MSc program over the next 5 years. This will be directly connected with the expansion of the faculty body and the view is to increase the number of students in each of the master's programs to a realistic number (max 10) during the next 5 years.  Additionally, as part of our efforts to increase students' numbers we have already started adding new promotional activities within our recruitment campaign both in Cyprus and in neighboring countries and these will be further intensified since a larger financial commitment will be made.	Choose level of compliance:
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Click or tap here to enter text.	Click or tap here to enter text.	Choose level of compliance:

### D. Higher Education Institution academic representatives

Name	Position	Signature
Stavros Malas	Provost	ghipmo .
Chrysanthia Leontiou	Head of Graduate School	Amportur
Vangelis Harmadaris	Program Coordinator	EXapport
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: 30 April 2024





