



Doc. 300.1.2

Higher Education Institution's Response

Date: 12/2/2021

- **Higher Education Institution:**
Cyprus School of Molecular Medicine, a school of the Cyprus Institute of Neurology and Genetics
- **Town:** Nicosia
- **Programme of study**
MSc Neuroscience (13 months, 90 ECTS, Master)
- **In Greek:**
Μάστερ στη Νευροεπιστήμη
- **In English:**
Master (MSc) in Neuroscience
- **Language(s) of instruction:** English
- **Programme's status:** Currently Operating



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) 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 deficiencies noted under the quality indicators (criteria)*
 - *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).*
- *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, 1.8, 1.9)

Findings

The Cyprus School of Molecular Medicine is the postgraduate school of the Cyprus Institute of Neurology & Genetics. As a Center of Excellence in basic and applied research in biomedical and clinical sciences, it combines its three pillars: services, research and education. The institute has a small inpatient ward and receives about 7500 patients per year. It provides high quality health care for Cypriote residents. The school has a long-standing collaboration with the medical schools in Cyprus. The external evaluation committee (EEC) was highly impressed by the professionalism, dedication, achievements, coherence, and the general positive atmosphere in the institute. Founded in 2012, the school provides both medical services and teaching in the genetics of neurology and biomedical Sciences. It is a private foundation but also supported by the government and half of the board members are appointed by the government. The teaching staff is involved in basic and clinical research. The school is regularly visited by an international committee that evaluates the quality of the scientific output. The institute has about 2 million euros in funding, some by European granting agencies, some from the United States. They have MOU's with multiple international organizations. Unfortunately, the current evaluation was solely performed by an online "remote" evaluation due to the Covid-19 pandemic, so there was no "on-site" visit and evaluation.

Strengths

The institute is highly regarded in the local community, provides excellent services and has a collaboration with the medical schools in Cyprus. Teaching and research are clinically oriented. A major strength is its position in the Cyprus medical community, as an institute of excellence.

Areas of improvement and recommendations

The school recruits internationally, but mainly from Greece and Cyprus and near Eastern countries.

In the last 3-4 years, and on an annual basis, the CSMM has participated, in International Postgraduate education fairs in the UK and in Spain, in order to increase its applications from EU countries. Moreover, it has come to collaboration with the association of the expatriate Cypriots who are citizens of other EU countries in order to come closer to these EU countries and attract qualified applications. In addition, it has earmarked a full MSc Scholarship, for any international student, with Cypriot ancestry, who wishes to study at the CSMM. The recruitment actions for the MSc actually serve the PhD recruitment as well, since CSMM MSc graduates often apply for the PhD programs. The above actions are in addition to the yearly promotion activities of the CSMM, which include among others promotion in the EU and other international online students' portals.

Although most students are recruited from Cyprus and Greece, some of these students have a dual nationality. For example out of 25 students recruited in 2020-21, 2 are from Greece, 1 from Iraq, 1 from Oman, 1 from Botswana, 1 from Russia, 18 are Cypriot and out of these 4 have dual Cypriot –EU nationality.

Finally, it should be noted that according to the existing regulations of the Ministry of Education the maximum of international student intake that we can have each year is limited to 20%. We would actually like this limit to increase and we will be grateful to the EEC if they can make the appropriate recommendations.



The school is starting to reach out to their alumni and it would be an opportunity to involve them more extensively in guest lectures. Fostering a strong relationship with alumni also creates an opening to potential future employers for the students.

The first MSc students graduated in 2013 and the first PhDs in 2016-17. We now have a pool of about 150 CSMM graduates creating a large enough community to launch the CSMM Alumni Association. To this end an initial get together event took place last year which was successfully attended by many CSMM graduates. Interest was collected for organising the Alumni Association and an event was planned to formalize it, but had to be postponed because of COVID-19 pandemic. We agree that the Alumni Association will add immense value to the CSMM, and we are proud to state that several CSMM graduates are working in prestigious Organizations, both within and outside Cyprus. We plan to form strong links with the CSMM Alumni in order to motivate the current students, increase their employment prospects, but also expose them to the wide range of opportunities and challenges that await them after graduation.

We are currently maintaining a database for our alumni which is regularly updated. Furthermore, alumni are involved in various CSMM Promotional activities.

The school should also reflect on overall strategy of masters courses: is the most important aim increasing biomedical expertise?

Although we have 9 Universities in Cyprus only one other University has MSc/PhD in Biomedical Sciences, so there is a need to increase the pool of Biomedical Scientists in Cyprus. There is an increasing demand for such graduates in the job market since there are several Medical degree courses, a growing health services sector, pharmaceutical and biotechnology industry. Importantly, research and innovation in the Health Sciences Sector is one of the priority areas in the smart specialization strategy of the Cyprus Government. The recent pandemic crisis has also highlighted the increasing needs for biomedical scientists in the future.

Does higher education in Cyprus need to build capacity for a PhD trajectory?

Indeed some of the MSc graduates continue on towards a PhD and this one of the aims of having the MSc/PhD tracks at the CSMM. In our experience more than 50% of the new PhD candidates are MSc graduates of the CSMM. We believe that building capacity for a PhD trajectory is a must for higher education in Cyprus in order to remain competitive at the international level and to facilitate innovation in the future.

Should the emphasis be on basic or clinical neurosciences?

Historically the CING/CSMM has pioneered the application of research in Medicine /Biomedicine in Cyprus covering both basic and Clinical applications. Indicative is the description and discovery of rare neurological diseases in Cyprus, together with their underlying genetic causes , as well as the generation of transgenic mice, manifesting specific neurological diseases. The CING is particularly strong in applied and translational neurosciences owing to its strong neurology services pillar, which is expected to remain a major activity in the future. Thus, it has the capacity to develop both basic and clinical neurosciences research, which is one of its competitive advantages within and outside Cyprus. The CING/CSMM philosophy and main emphasis is on excellence, allowing each of the faculty to make the most of the available infrastructure and unique resources and to develop any direction of research within the wider neuroscience field.

The school needs to develop vision and strategy on how the different masters programs fit together.

Currently the CSMM offers the following four MSc programs: Medical Genetics, Molecular Medicine, Neuroscience and Biomedical Research. The four programs were organised based on:

- High International standards
- Market research
- Knowhow and expertise, infrastructure and critical mass available at CING
- Appeal and popularity to students
- Opportunities available to graduates in Cyprus and abroad

The programs fit well together as they combine the advantages of delivering both a broad postgraduate educational experience, with the insight of an in-depth knowledge in main stream disciplines, like Molecular Biology, Genetics and Neurosciences. The above knowledge is integrated with hands-on laboratory work, which exposes students to the latest state of the art methodologies and how these are applied, to solve clinical problems, or to advance basic research.

Strategy should also involve marketing issues e.g. how do the programs fit in with other higher education programs in Cyprus, what type of competition is there and is any synergy possible?

Although we have 9 Universities in Cyprus only one other University has MSc/PhD in Biomedical Sciences, so there is a need to increase the pool of Biomedical Scientists in Cyprus. In addition there is no other University which offers postgraduate Education in Neuroscience in Cyprus. There is an increasing demand for such graduates in the job market since there are several Medical degree courses, a growing health services sector, pharmaceutical and biotechnology industry. Importantly, research and innovation in the Health Sciences Sector is one of the priority areas in the smart specialization strategy of the Cyprus Government. The recent pandemic crisis has also highlighted the increasing needs for biomedical scientists in the future.

The CING in the past, before the establishment of its own school, the CSMM, has collaborated with other HEIs in Cyprus and abroad. This collaboration continues to some extent but now the CING can award its own degrees, through the CSMM. At this point, now that the CSMM has accumulated enough experience to operate on its own, it will examine the possibility to collaborate with other prestigious HEI in Cyprus and abroad in order to create synergies.

In terms of synergy, we actually did a joint program MSc/PhD with the department of Biological Sciences of the University of Cyprus and having been through this experience, decided to create our own autonomous programs. At the moment we believe that our programs are intensive and competitive as they stand. Pending the approval of the new FOREAS law and the upgrading of the CSMM, which will be made equivalent to Universities, initiatives will be undertaken to explore the potential of establishing joint degree programs with other esteem Universities (National or International).

As a result of the above, the CSMM targets specific markets which are more appealing, applying its Marketing plan which includes a combination of actions. These actions involve both traditional marketing such as advertisements in dedicated “students’ channels” and the online one such as advertisements in online students’ portals.

2. Teaching, learning and student assessment (ESG 1.3)

Findings

The Cyprus School of Molecular Medicine is the postgraduate school of the Cyprus Institute of Neurology & Genetics. Please refer to the introductory paragraph above for a full description.

Strengths

Our impression, supported by student feedback, is that the quality of the teaching is excellent.

The programme has put in place an excellent Preparatory Course for students without a biological/medical sciences background. This is most effective and much appreciated by all of the students. An entrance exam following the introductory course ensures that the students are well prepared.

The faculty to student ratio is close to 1:1 and therefore optimal to provide adequate coaching.

A “teach-the-teacher” program ensures that junior faculty is trained.

Areas of improvement and recommendations

Teaching is mostly of the “ex cathedra” type. Modern educational principles emphasize student centered and activating teaching style involving a more active role and engagement of the student.

Each of the thirteen courses taught at the CSMM has the following structure:

Duration =13 weeks

26 x 90 minute lectures including workshops demonstrations, lab visits = teaching done in the conventional way, but always encouraging student interaction and participation. There is a 10minute slot for questions, discussion etc. Students are encouraged to interrupt lectures for questions and discussion at any time.

13 x 60 minute tutorials = these are student centred, to answer questions, discuss topics etc. They are run on a free mode meaning that the lecturer in charge can use a number of appropriate educational tools, to encourage student participation. They may take along a PhD student, or a post-doc, or raise a topic related to the lecture delivered the previous week.

For example, after a formal lecture the students could be challenged with hands-on practical sessions on datasets. Assignments to write small research proposals, with gradually increasing complexity as the students’ progress. Provide more in depth literature discussion sessions that could be chaired and assessed by students (‘peer-evaluation’).

We thank the EEC for these creative suggestions. Some of the above is already taking place albeit not on a regular basis. We will recommend and encourage lecturers to introduce some of the above practices in every CSMM course. We already offer several practical workshops instead of lectures in all Neuroscience course during which students have the opportunity to experience and practise research techniques and methodologies. Furthermore, students make presentations of journal articles in each of the courses with in-depth critical discussion with faculty and peers, carry out group assignments, and participate in both class and laboratory workshops and demonstrations. Finally, through their projects, the students have ample opportunity to gain hands on experience while learning all the laboratory techniques that prepare them to carry out their autonomous laboratory work.

3. Teaching Staff (ESG 1.5)

Findings

The EEC was highly impressed by the professionalism, accomplishments, achievements, coherence of the teaching staff.

Strengths

There is a good age structure of the faculty and mentorship of younger faculty. The school has implemented a teach-the-teacher program and there is evaluation of teaching skills on a regular basis.

They have managed an admirable team like mentality and their enthusiasm at all levels comes across strongly.

Areas of improvement and recommendations

The school could try to involve some of the alumni and invite guest lecturers, e.g., from pharma and thereby introduce some of the potential future employers in the institute.

This activity has already been initiated, even though we do not at present have a formalised Alumni Association. This academic year 2019-2020 we had planned for at least three lectures to be delivered by CSMM graduates: a doctor working at Hammersmith Hospital, Imperial College London, a PhD graduate working as a post-doc at the University of Columbia, New York and an MSc graduate who did his MSc at the CSMM, then did a PhD at University of Kingston, London, UK and is now working as a post-doc for a Biotech/Pharma Company in San Diego, California, USA. A guest professor on experimental Neurophysiology was planned to visit us from the University of Crete for a week to deliver additional teaching and workshops for Neuroscience Students, but the visit was cancelled twice in April and October 2020 due to the pandemic.

When the school will be moving to the new building, there should be a reflection on organization of education, career possibilities for younger and established faculty and succession planning for faculty that has reached the emeritus status

A number of CSMM graduates are already employed on a full-time basis at the CING, while fulfilling various positions available in their field of study. Indeed, with the establishment of the new building, the CSMM expects that more CSMM graduates (compared to nowadays) will be hired at the CING to fill a) the new available positions that will be available in the new research teams that will be established and b) the additional positions that will be available in the existing research teams that will be expanded. Some of these graduates will be asked to offer their contribution in the various academic activities of the CSMM (i.e. lectures, tutorials, students' supervision). It should be noted, however, that within the next 5 years the developments related to the new CING building are unlikely to take place (completed construction in 2024-25 the earliest) and so we need to be careful about any CSMM plans that cannot be realized by the next external Evaluation.

Finally, the faculty upgrade regulations which enable CING staff to become CSMM faculty are currently being revised aiming to increase the number of available faculty and their opportunities for competing in the future in the succession of retiring faculty members.

4. Students

(ESG 1.4, 1.6, 1.7)

Findings

The students need to have a Bachelor degree from a recognized and accredited institution. There is a preparatory course which contains 9 lectures for candidates that come from outside the field of biomedicine, followed by an entrance exam. Communication and writing skills are evaluated through presentations and essays.

Strengths

Professional development of the students is evaluated and research integrity is promoted through courses on publication ethics and checks for plagiarism. All students have an academic and the research advisor even though the whole program is more research oriented. Emphasis is placed on transferable skills.

Areas of improvement and recommendations

Mandatory attendance of courses should have a clear purpose. Distant learning, recording of lectures and formative evaluation should be promoted. Students should be encouraged to engage with broad topics. Innovative educational techniques e.g. “flipped classroom” type with Q&A should be considered.

From the very early stages of the pandemic and since then, the CSMM has demonstrated flexibility and has adjusted its operations according to the guidelines provided by the National Authorities. As a result of this, the mode of academic activities was adjusted to online. The flipped classroom is applied to some extent as nowadays, the students visit the CING premises for a specific purpose e.g. to apply the knowledge received while working in labs with their supervisor and not to receive information. This visit at the premises is always done while strictly adhering to the guidelines provided by the Government. The CSMM looks favourably at the possibility to continue following this model after the pandemic ends, should the Government official bodies in Cyprus allow it.

The faculty should consider career advice to students both on MSc and PhD level. When a MSc stands out and would be suited for further doctoral studies, faculty should invite them to apply for PhD program.

Although the CSMM does not have a dedicated career advisor, the CSMM students get plenty of support and advice. Each CSMM student is allocated a personal Academic advisor as well as a research advisor. The students can consult with them and obtain advice and guidance continuously. In addition they can seek advice from the officers in the Academic Office and can always see the Dean. Indeed because of the small pool size of the CSMM student community, such advice is always floating amongst them. Indicative is the fact that every year more than 50% of the selected PhD candidates originate from the CSMM MSc graduates. Due to the very small size of the program, all MSc students have ample opportunity to have personal exchange of ideas with faculty, ask about PhD opportunities, and receive direct encouragement by the faculty to apply for PhD based on their MSc performance.

5. Resources

(ESG 1.6)

Findings

From the administrative personnel we obtained information on admission and support of students both in terms of scholarships but also housing and other activities (also “extra-curricular”).

Strengths

The school provides support not only for housing but also in terms of migration permits. In case of trouble there is a confidence person and an academic advisor to turn to. There is a student council and student representatives are involved in all committees. Students with special needs can obtain additional time to pass the exam and also sometimes use of computer programs

Areas of improvement and recommendations

Even though the courses are evaluated by the students, there is no clear feedback from the faculty about what is done with the information. There is just hearsay from the next generation of students about what was changed in the course in order to improve the quality. The quality assurance program therefore needs to provide feedback to the students. The organisers may also wish to consider the setting of goals or standards of student feedback that they would wish to see or achieve.

There is a specific process after receiving the feedback from the students and this is followed since the early stages of the CSMM. This process involves the official bodies of the CSMM (i.e. Academic Committee and the Provost) which carefully review the analytical results, compare to previous years’ performance with the use of statistics, have meetings with the academic staff when needed to discuss and to set an action plan, provide recommendations and more. This process and generally the open channels for soliciting the students’ feedback has led to major improvements or/and some adjustments. For example, a past request from the students to move the Methodologies course (MG103) from Spring to Autumn semester has been fully implemented.

The results of the actions are always communicated to the students through the following channels:

- Meetings with the Class Representatives of all programs
- Emails to the group of students
- Communication on a one-to-one basis with the students.
- The results of review process will be approved by the Quality Assurance Committee and also communicated to the students.



6. Additional for distance learning programmes
(ALL ESG)

N/A



7. Additional for doctoral programmes
(ALL ESG)

N/A



8. Additional for joint programmes
(ALL ESG)

N/A

B. Conclusions and final remarks

Conclusions and final remarks

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 EEC was favourably impressed by the quality of the staff, their dedication and their involvement in teaching, follow up and evaluation of the students. The school, its governing board and faculty should be commended for the development of this curriculum. The EEC hopes the school will flourish after having moved to the new building.

Most important final recommendations:

We recommend that the school further develops its marketing strategy.

The CSMM participates in various fairs locally and globally, using offline and online promotional means as well as a competitive scheme of scholarships exclusively for the international audience, aiming to reach to as many quality international students as possible.

With a growing number of students both on the master's level as well as in the PhD program, the school should try to maintain the high quality of research and education.

The mission of the CING is to operate as a Regional Centre of Excellence in the areas of Neurology, Biomedical and Forensic Sciences. In striving to achieve this mission CING/CSMM promote the execution of specialised services, excellent research and quality education.

The school should turn towards Europe as well as the Middle-East for recruitment of new students as well as faculty.

In the last 3-4 years, and on an annual basis, the CSMM has participated, in International Postgraduate education fairs in the UK and in Spain, in order to increase its applications from EU countries. Moreover, it has come to collaboration with the association of the expatriate Cypriots who are citizens of other EU countries in order to come closer to these EU countries and attract qualified applications. In addition it has earmarked a full MSc Scholarship, for any international student, with Cypriot origins, who wished to study at the CSMM. The above actions are in addition to the yearly promotion activities of the CSMM which include among others promotion in EU and other international online students' portals. As for faculty since the MSc programs have been designed and embody the long standing experience and knowhow accumulated by the CING personnel then there are plenty of suitable candidate to fill the faculty positions available at the CSMM. Having stated this all new Faculty positions are advertised internationally, in order to attract talent form outside. In addition the CSMM encourages visiting Faculty appointments.

Consideration as to the overall aims of the masters programs- are they to create the next generation of researchers through identification of the best students for PhD?

Indeed some of the MSc graduates continue on towards a PhD and this is one of the aims of having the MSc/PhD tracks at the CSMM. In our experience more than 50% of the new PhD candidates are MSc graduates of the CSMM.

Are they to create wealth and health for Cypriot population?

The CSMM programs are an exemplary example, which combines postgraduate education with hands on professional experience. With the three pillars, comprising specialised diagnostic services, research and education, going on under one roof, combined with the exposure of students to the visiting patients, this provides a stimulating environment for the students. In addition most of the CSMM research projects are translational and target the investigation of human diseases, exposing the students to real life and challenging problems related to many human disorders. This enhances the motivation of the students to engage in health related problems.

Are they to further develop the biomedical intellectual infrastructure of Cyprus or a mix of the above?

Although we have 9 Universities in Cyprus only one other University has MSc/PhD in Biomedical Sciences, so there is a need to increase the pool of Biomedical Scientists in Cyprus. There is an increasing demand for such graduates especially, since currently there are three Medical Universities, offering 4 Medical degree courses. This creates a demand for biomedical graduates to work as teachers and tutors for whom the demand is increasing because the Government strategy is pushing for research and innovation especially in Health.

Overall, the Neuroscience MSc has the strategy to provide different opportunities and pathways to its graduates, given the diverse needs and the small size of the country. Thus, it strives to offer both science and research career opportunities to interested students as well as a strong qualification for a competitive job market focusing on services. Focusing on only one of these aspects will diminish the valuable multidisciplinary character and competitive wider applicability of the Program.

Such strategic thinking will enable a clear plan as to what they want to achieve following the expansion in the new building.

The expansion of CING of the CING provides a much needed and long awaited opportunity to strengthen the National and Regional role of the CING/CSMM. The strategy includes the introduction and establishment of new infrastructures and technologies, via the recruitment of new Group Leaders. These will function as core facilities and will be well integrated into the current CING backbone, increasing critical mass and the current knowledge base. CING will become more competitive in research and this combined with the planned new CSMM programs, will strengthen the regional role of CING/CSMM, expand its stakeholder share and create a new momentum for attracting talented students and early career scientists.

The requirement/benefits of offering a 2 year (more research intensive) course alongside other masters with shorter research times could also be considered in this review process.

We would like to thank the EEC for this recommendation.

This is an aspect that the CSMM has already considered and implemented; that is why it offers the MSc program in Biomedical Research. This is a two year MSc program which addresses the desire of some MSc students to spend longer time in the lab in order to satisfy their interest and needs to learn in more depth laboratory methods and scientific investigations. This two year MSc credits students with 120 ECTS, as opposed to 90 ECTS that are awarded for the one year full-time MSc programs. The 120 ECTS consist of 50 ECTS given for the taught course, and for their research project these students are allocated 70 ECTS, reflecting the extra year that they spend working on their research project.

C. Higher Education Institution academic representatives

<i>Name</i>	<i>Position</i>	<i>Signature</i>
Leonidas Phylactou	Professor, Provost of the CSMM and CEMD of CING	
Kyriacos Kyriacou	Emeritus Professor, Dean of the CSMM	
Kleopas Kleopa	Professor, Co-ordinator of the MSc/PhD Program in Neuroscience	
Marios Flouros	Financial and Administrative Director, CING	
Maria Lagou	Manager of the CSMM Academic Office	

Date: 05/03/2021

