

Doc. 300.1.2

Date: 05/10/2023

Higher Education Institution's Response

- **Higher Education Institution:**
University of Nicosia

- **Town:** Nicosia

- **Programme of study**
Name (Duration, ECTS, Cycle)

In Greek:

Βιοϊατρικές Επιστήμες (1,5 έτη / 90, ECTS, Μάστερ)

In English:

Biomedical Sciences (1.5 years/ 90 ECTS, MSc)

- **Language(s) of instruction:** English
- **Programme's status:** Currently Operating
- **Concentrations (if any):**

In Greek: Concentrations

In English: a) Immunology & b) Hematology



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 2nd 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 **without any interference** 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.*

Introduction

We have received and carefully reviewed the External Evaluation Committee's (EEC) comprehensive report following their visit to the University of Nicosia on July 11, 2023, from 09:00 to 17:15, Cyprus time, for the evaluation and accreditation of our M.Sc. in Biomedical Sciences program.

We would like to thank the EEC for their professional and thorough work during the M.Sc. in Biomedical Sciences onsite evaluation. We would also like to express our appreciation for the collegial and constructive approach with which they conducted their evaluation. Their constructive feedback has been invaluable in identifying areas for improvement in our program, and we sincerely appreciate their contribution to enhancing the quality of education we provide. We have considered their report thoroughly, and the following is our response to all points raised by the EEC.

Under each assessment area, please see our comments on the findings outlined in the EEC report. In response to the areas of improvement and recommendations made by the EEC, please find our response and actions taken in column 2 of the table in each section.

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

The EEC recognized that the rationale behind the creation of our M.Sc. in Biomedical Sciences was to ensure that the training of Clinical Laboratory Specialists aligns with EU regulations and guidelines, as stipulated by the European Federation of Clinical Chemistry & Laboratory Medicine (EFLM). The committee accurately noted that completing this programme can be considered part of the minimum nine years of undergraduate and postgraduate study necessary for registration as a European Clinical Specialist. Furthermore, the EEC highlighted that the program adheres to the quality assurance policies outlined by the Cyprus Agency of Quality Assurance and Accreditation in Higher Education (CYQAA). These policies guarantee quality, academic integrity, and freedom while supporting teaching and administrative staff, students, and external stakeholders.

The committee also highlighted several strengths of the program: “The rationale to combine Immunology and Hematology is reasonable since both disciplines share a common trunk that can form the basis of the programme,” and “the programme gives opportunities for laboratory-based Clinical Practicum and Thesis and the students have the opportunity to make their choice among a number of collaborating laboratories.” The Committee positively noted that “the drop-out rate is low and the completion rate is relatively high, meaning that the programme fulfills the expectations of the students”. Furthermore, the Committee was pleased to note that “The organization of an annual conference in collaboration with the Association of Clinical Laboratory Directors, Biomedical and Clinical Laboratory Scientists increases the visibility of the Program to the public and gives further training and employment opportunities to the students.”

The EEC made some recommendations for improving the programme in this area. These are documented in column 1 of the table. The corresponding responses and actions are provided in column 2.

Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
The course objectives and learning outcomes described in the syllabus are often unrealistic in scope, either insufficient or much too detailed. An update of the learning outcomes is highly recommended.	We thank the Committee for this crucial comment and suggestions. Following the recommendations of the committee, all course outlines have been revised and updated. (The updated course outlines are enclosed in Annex 2: Course Description, in the revised Application for evaluation document, pp.45-76).	Choose level of compliance:
The implementation of a common required course on Immunotherapy is highly recommended.	We would like to extend our gratitude to the Committee for bringing this matter to our attention. We are in agreement that the introduction of a common course in Immunotherapy is indeed necessary. However, introducing an entirely new course is not feasible as it would push the total ECTS to 97.5. Furthermore, replacing a common course with a new one focused on Immunotherapy would necessitate the omission of substantial core knowledge, which goes against the guidelines set by the EFLM.	Choose level of compliance:

	<p>We highly value the Committee's feedback. In light of their suggestions, we have adapted the content of one course for each concentration to include the foundational principles of immunotherapy. More specifically, the courses IMMU-544 (for the Immunology concentration) and HEMA-532 (for Hematology) have been enhanced. Their titles have been revised to "IMMU-544: Immunotechnology and Immunotherapy" and "HEMA-542: Blood Disorders and Immunotherapy", respectively.</p> <p>Additionally, we've made subtle adjustments to the content and learning objectives of the shared course "BISC-512: Bioanalytical and Diagnostic Technology." This ensures students receive a preliminary introduction to techniques leveraging antibodies to treat various diseases, including cancer.</p> <p>The updated course outlines are included in the revised Application for evaluation document (Annex 2: Course Description, in the revised Application for evaluation).</p>	
<p>There are two group of students who are interested to enter the program, i.e. those who are mostly interested to obtain the European qualifications and those who want to continue with post-graduate studies. The programme could implement a clinical laboratory diagnostic track and a research-oriented track.</p>	<p>We appreciate the Committee's recommendation, but we wish to emphasize that our Master's program is not strictly laboratory-oriented. As noted by the committee, a major strength of our program is that it covers the needs for postgraduate training of scientists who want to become registered Clinical Laboratory specialists based on the European Regulations. In line with that, the learning objectives and course content have been meticulously developed in accordance with the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) syllabus and the guidelines of the European Union on training Clinical Laboratory Specialists. Our primary aim is to prepare future clinical specialists or to bolster the skills of existing professionals in the field. While we acknowledge that some students join our program to deepen their knowledge in immunology or hematology without aspiring to be clinical laboratory specialists, our curriculum and infrastructure remain geared towards the primary goal.</p>	<p>Choose level of compliance:</p>

	<p>The Committee's suggestion of offering two distinct tracks is academically commendable. However, our current resources, expertise, and infrastructure are tailored to support a program that aligns with EFLM requirements. Venturing into two separate tracks could potentially dilute our resources, possibly affecting the high educational quality we strive to maintain. It is noteworthy that feedback from various student cohorts has consistently emphasized a strong inclination toward securing European qualifications. Given the majority of our students aspire to become European clinical specialists, it's not feasible to sustainably run both tracks concurrently on an annual basis.</p> <p>We believe our program's current structure aptly caters to the needs and aspirations of most of our students. The program's robust foundational nature also equips students to delve into research during the later stages of their academic journey. While we are devoted to the continuous evolution of our program, we consider the dual-track concept worth revisiting only when our resources and student demographics permit.</p>	
<p>It should be clear that students cannot be trained for their Clinical Practicum in their current or previous work environment.</p>	<p>We thank the Committee for this valuable comment. We have implemented clear guidelines (<i>Placement Criteria</i>) specifying that students cannot undergo their Clinical Practicum in their current or previous workplaces. This measure ensures the integrity of the training and promotes the acquisition of diverse skills and perspectives, which are essential for a comprehensive education in biomedical sciences.</p> <p>These specific guidelines have been incorporated in the revised course outline of the clinical practicum (BISC-514) (Annex 2: Course Description, pp. 50-52). In detail the following Placement criteria have been added:</p> <p><i>“To ensure the Clinical Practicum's integrity, quality, and comprehensiveness, students must undertake their training in an environment distinct from their current or previous work settings. This policy is rooted in the belief that exposure to diverse clinical</i></p>	<p>Choose level of compliance:</p>

	<p><i>settings and methodologies is fundamental to the holistic development of a biomedical specialist. Moreover, completing placements in a familiar environment may not only hinder the broadening of a student's experience but can also lead to potential conflicts in the supervisor-student dynamic. Consequently, students are strictly prohibited from pursuing their Clinical Practicum in any laboratory where they have previously or are currently employed. Additionally, it is essential to highlight that the program is designed to be rigorous and comprehensive, and prior experience in a particular clinical laboratory does not warrant exemptions from any parts of the curriculum or practicum."</i></p>	
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2. Student – centred learning, teaching and assessment (ESG 1.3)

The EEC acknowledged that our teaching staff utilizes modern pedagogical methods, including blended and case-based learning, occasionally experimenting with formats such as the flipped classroom. The University supports these innovative approaches by providing necessary training. It is encouraging to note that the effectiveness of these methods is rigorously evaluated, yielding results that may even warrant publication.

The Committee identified several strengths of the programme, including the flexible format of Thesis II, which can be either a lab-based research project or a literature review. This flexibility is crucial for accommodating students with full-time jobs or other responsibilities. Other positive aspects highlighted include open communication, strong relationships between the teaching staff and students, and the opportunity for students to present and discuss cases during the course. Students expressed that they derive significant learning from this M.Sc. programme.

Moreover, the Committee appreciated that the necessary lab space and equipment are available and adequately maintained. The teaching staff, actively engaged in research themselves, are up-to-date with the practical training, which enriches the program significantly. The faculty brings extensive research experience to the table, a factor the Committee recognized as a particular strength of the program.

Lastly, as observed by the Committee, the students raised no serious complaints during the interviews, and issues were adequately addressed by members of the course and the university, underscoring the effectiveness of our measures and procedures in place. The EEC made some recommendations for improving the programme in this area. These are documented in column 1 of the table. The corresponding responses and actions are provided in column 2.

Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
<p>The course is catered to students who would like to become a certified “European Specialist in Clinical Chemistry and Laboratory Medicine”, but not sufficiently towards students who would like to go into research. The committee recommends to focus the M.Sc. programme either on students with clinical diagnostic laboratory training that would like to become certified “Clinical Chemists” or develop a two track system; a clinical diagnostic laboratory track (concentration) and a research oriented training track (concentration), with some overlap between the tracks when it comes to core theoretical courses. Of note, in such research oriented track the Thesis II project should entail at least</p>	<p>We appreciate the Committee’s concerns regarding students who would like to pursue research. However, as mentioned above, the current M.Sc. is not a lab-oriented program. We therefore want to clarify the current structure and options available within our M.Sc. program. While we do not explicitly offer two distinct tracks—i.e., a clinical diagnostic laboratory track and a research-oriented training track—we have ensured flexibility in our curriculum to cater to diverse student interests.</p> <p>As the Committee rightly highlighted a notable strength of our program is “the option for Thesis II to be either a laboratory-based research project or a literature review”. This flexibility is especially beneficial for mature students who juggle full-time employment or other obligations. Specifically, in the final semester, students</p>	<p>Choose level of compliance:</p>

<p>3 months full-time lab-based research work.</p>	<p>have the choice to pursue either a literature-based thesis or engage in lab-based research work. It is worth noting that this lab-based research thesis spans a period of at least three months, i.e. from February to May, aligning with the committee's suggestion. We believe this approach maintains the integrity of our program's primary focus while still accommodating students keen on delving into research.</p>	
<p>The committee has some reservations concerning the weight of the hematology part and provides suggestions for improvement elsewhere in this evaluation</p>	<p>We have thoroughly addressed this concern, as well as the provided suggestions for improvement, in sections 3, 4 and 5 of this document.</p>	<p>Choose level of compliance:</p>
<p>Make it very clear to the students that the placements (Clinical Practicum) can not be performed in the laboratory where they have been working before. Not only is it important to learn from other work environments, such situation can also compromise an effective supervisor-student relationship. It is also important that students do not enter the program with the ambition to skip as many parts as possible just because they have experience since before from a certain clinical laboratory. Such voices were raised during the interviews so this also needs to be made clear.</p>	<p>As discussed above, we have implemented clear guidelines stipulating that students cannot undergo their Clinical Practicum in their current or previous workplaces.</p>	<p>Choose level of compliance:</p>
<p>Try to encourage the students to provide course feedback and register this for future evaluations. Maybe the evaluation process can be made easier online and/or by showing the students a short online tutorial.</p>	<p>We appreciate the Committee's suggestion. We would like to clarify that our evaluation process is already facilitated online through the UNIC Platform. As the Committee noted regarding student assessment, there were no significant complaints from students or issues raised during the interview with other members of the course and the university. This indicates that adequate measures are in place to address such concerns. To ensure increased participation, we plan to emphasize the importance of feedback to our students and will introduce a brief demonstration on utilizing the platform effectively. Additionally, to make the process even more convenient, we consider asking students to complete evaluations at</p>	<p>Choose level of compliance:</p>



	the end of the last class of each course using their mobile phones.	
Provide drop-out numbers or % in the Application for evaluation document, including some specification as to why the student dropped out.	We thank the Committee for bringing this matter to our attention. The number of students who dropped out, along with the reasons for their departure, have been added to the revised application for evaluation document (p.25).	Choose level of compliance:

3. Teaching staff (ESG 1.5)

The EEC acknowledged the dedication, enthusiasm, and appropriate qualifications of the current teaching team, deeming them well-equipped to administer the M.Sc. program effectively. According to the committee, the staff possesses the necessary qualifications to realize the objectives and learning outcomes of the M.Sc. program. This ensures the maintenance and potential enhancement of the quality and sustainability of both teaching and learning processes.

Furthermore, the EEC pointed out several strengths of the program in this area. It commended the innovative pedagogical approaches some teachers have adopted, which are particularly beneficial for leveraging the experience of mature students. The committee also recognized the inclusion of students in the teaching and assessment committee as a valuable practice, applauding the recent improvements made to the peer-review process to ensure it is fairer and more transparent. Finally, the committee noted with approval that the teaching staff takes great pride in the achievements of their students, with individual students being recognized as among the best at the university.

The EEC made some recommendations for improving the programme in this area. These are documented in column 1 of the table. The corresponding responses and actions are provided in column 2. Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
<p>3.1 Teaching staff recruitment and development:</p> <ol style="list-style-type: none"> There is a need to recruit teachers with experience and training in clinical hematology, transfusion medicine/blood banking and transplantation immunology. A system to follow up and award competence development within the pedagogic field should be considered in order to encourage systematic and continuous improvement of teaching for the students. Create incentives to test and implement new pedagogic models in the M.Sc. programme. This also has the potential to lead to scientific publications within the field of pedagogic development in biomedical education. 	<p>We want to thank the Committee for the valuable suggestions. In alignment with these suggestions:</p> <ol style="list-style-type: none"> We have involved a lecturer from the Medical School (Dr. Niki Vyridis, MD; her detailed CV is enclosed in the revised Application for evaluation document, pp. 152-156) with a long experience and training in hematology, transfusion medicine/blood banking and transplantation immunology. We are actively considering the following measures: <ul style="list-style-type: none"> <i>Pedagogical Training and Workshops:</i> Introduce regular training sessions focusing on emerging teaching methodologies, tools, and best practices. A strength of our program, as noted by the committee, is that most lectures have introduced newer pedagogic models to take 	<p>Choose level of compliance:</p>

	<p>advantage of the mature student group and their experience.</p> <ul style="list-style-type: none"> • <i>Feedback Mechanisms:</i> Strengthen our feedback systems to gain more nuanced insights from students regarding teaching techniques. • <i>Developmental Portfolios:</i> Encourage faculty to maintain portfolios documenting their professional growth, highlighting workshops attended, innovative teaching methods adopted, and feedback received. <p>3. In response to the committee's suggestion, we are actively exploring fresh pedagogic models for our M.Sc. program. To propel this initiative, we are organizing faculty development sessions on innovative teaching techniques and offering research grants to foster educational advancements. We are also leveraging student feedback and partnering with pedagogic research units to ensure our teaching approaches remain contemporary and impactful. These steps aim to not only enhance our curriculum but also foster scholarly contributions to educational research.</p>	
<p>3.2 Teaching staff number & status:</p> <p>1. The Dean of the School and Department Head must work together with the Program Coordinator to ensure that the University follows the regulations regarding full-time vs. part-time teaching staff. At this point, it appears to this committee that this is not the case for this M.Sc. programme. If this is indeed the case, this must be dealt with swiftly and effectively. A suggestion could be</p>	<p>We want to thank the Committee for the valuable recommendations. In alignment with these recommendations:</p> <p>1. We have recruited more full-time teaching staff so we follow the regulations regarding full-time vs. part-time research staff. In the following years, we are planning to involve a specialist in bioinformatics, as suggested by the Committee. The teaching faculty consists of eight (8) full-time and three (3) part-time</p>	<p>Choose level of compliance:</p>

<p>to employ a dedicated bioinformatics teacher as this part needs to be expanded to meet the requirements on scientists of the future.</p> <p>2. Another firm recommendation is to involve teaching staff from other parts of the university, especially from the School of Medicine (for clinical background) to broaden the scope covered by the teachers' team.</p>	<p>teaching staff (Please see Table 4, p.43 in the revised Application for evaluation document). The qualifications of all teaching members have been included in the revised Application document (Annex 3: Detailed Biographical Notes, pp:77-156).</p> <p>2. We have involved teaching staff from the medical school (Dr. Niki Vyrides, MD) to broaden the scope covered by the teachers' team.</p>	
<p>3.3 Synergies of teaching & research</p> <p>1. Teaching skills and pedagogic merits should be as important as research when it comes to promotions and annual reviews. It is not enough to write about this in documents. It also has to be practice in reality.</p> <p>2. Now that the publication numbers appear to be increasing for the university it is time to turn the focus from quantity to the quality/impact/citations of the studies published by the teaching staff. This will be in line with changing recommendations in the ranking systems of the future. The committee strongly believe it to be important for the credibility of the M.Sc. program that the teaching staff continues to improve the level at which they perform competitive research in the field of biomedical science but also try and develop research within the immunology and hematology fields to fit the new M.Sc. programme profile</p>	<p>1. Teaching methodologies and research involvement of our faculty are actively monitored and assessed through an annual peer evaluation process. In addition, all faculty members are required to submit a self-assessment report that highlights their significant achievements in three fundamental areas: teaching, research, and community contribution. These reports are thoroughly evaluated by the Dean of the School, the Department Head, and senior faculty members to ensure that both teaching skills and research contributions are given equal consideration during promotions and annual reviews, translating our commitment from paper to practice.</p> <p>2. As our university's publication volume has grown, we recognize the crucial next step is to emphasize the caliber and impact of these contributions. We concur that aligning our focus with future ranking system recommendations, which spotlight quality, impact, and citations, is pivotal. To this end, we are implementing a more discerning approach to research outputs, encouraging our teaching staff to aim for higher-impact journals and foster</p>	<p>Choose level of compliance:</p>

	<p>interdisciplinary collaboration, especially in the fields of immunology and hematology. We believe that by elevating our research endeavors in these specific domains, we will not only bolster the credibility of the M.Sc. program but also contribute more significantly to the broader scientific discourse in biomedical science. This commitment to research is evidenced by the publication records of the program’s teaching faculty, as outlined in the Revised Application for Evaluation document (Annex 3: Detailed Biographical Notes, pp. 77-156).</p>	
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4. Student admission, progression, recognition and certification (ESG 1.4)

The EEC identified the successful recruitment of scientists and professionals from the fields of Life and Health Sciences as a significant strength of the programme. These individuals are keen on acquiring European qualifications as experts in clinical diagnostic services in alignment with the European Federation of Clinical Chemistry and Laboratory Medicine stipulations. According to the initial feasibility study conducted by the School of Life and Health Sciences, this was the programme's primary aim and target demographic, responding to a significant surge in inquiries for postgraduate training across various disciplines of Biomedical Sciences. This increase in interest was primarily due to alterations in European regulations. The committee also positively noted that "All the procedures regarding processes and criteria for student admission, progression, recognition and evaluation are generally clear and well described and presented", and that "Students' progress is continuously assessed throughout the semester using various methods and techniques designed based on the aims and learning outcomes of the courses".

Moreover, the sustained operation of the programme over the years is a testament to its ability to meet student expectations, particularly in the field of Immunology, which has been the main focus until now. The programme's acknowledgment of candidates' prior laboratory and research experience during the admission process is beneficial, as it opens avenues for recruiting professionals and scientists from the fields of Life and Health Sciences, who constitute the program's primary target group. Furthermore, the program has forged collaborations with diagnostic, clinical, and research laboratories, significantly bolstering support for students' clinical practicum and lab-based theses.

The EEC made three recommendations for improving the programme in this area. These are documented in column 1 of the table. The corresponding responses and actions are provided in column 2.

Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
<p>So far, the main direction of this programme was Immunology alone. In the current application, the programme aims to add Hematology in parallel with Immunology given that both disciplines share a common trunk that can form the basis of the programme. Despite the existing experience, a number of issues described in various parts of this evaluation regarding, among others, the content of the courses and the learning objectives, the competence of the teaching staff in Hematology, would be critical for the credibility of the programme. A closer collaboration with the School of Medicine could accommodate part of this needs.</p>	<p>In light of the Committee's insightful suggestions and as mentioned elsewhere in this report:</p> <ul style="list-style-type: none"> • All course outlines have been revised and updated. • New staff from the medical school (Dr. Niki Vyrides) with long experience in hematology has been recruited 	<p>Choose level of compliance:</p>

<p>The hands-on experience should be increased with work related to novel methods in Immunology and Hematology. There are novel methods and techniques relevant for the rapidly moving fields of diagnostics in Immunology and Hematology, and even students with previous lab experience may be educated and trained in novel fields. Such training in modern fields will increase the qualification of the students.</p>	<p>Despite our Master's program is not strictly laboratory-oriented, we genuinely recognize the significance of exposing our students to cutting-edge diagnostic techniques in these rapidly evolving fields. Indeed, even students with prior lab experience can greatly benefit from training in these modern fields, thereby enhancing their qualifications. While we acknowledge the importance of such hands-on training, we are currently constrained by the availability of specific equipment within our institution. However, we have proactively taken steps to ensure our students are not deprived of this critical experience. Significantly, as highlighted by the committee, the programme has fostered collaborations with diagnostic, clinical, and research laboratories to facilitate the clinical practicum and lab-based thesis projects of the students. To this end we have established partnerships with leading institutions that house state-of-the-art equipment and methodologies. Through scheduled demonstrations and site visits, our students gain insights into the application of these modern techniques. More importantly, during their clinical practicum courses and when opting for a lab-based thesis project, students have the invaluable opportunity to receive direct training on these novel techniques. While we strive for in-house comprehensive training, these external collaborations have provided a temporary yet effective solution to bridge the gap between curriculum demands and our current institutional constraints. We are also continually exploring avenues for potential equipment acquisitions and facility upgrades to enhance our in-house practical training offerings further.</p>	<p>Choose level of compliance:</p>
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<p>As mentioned above, there are two groups of students who are interested to enter the program, i.e. those who are mostly interested to obtain the European qualifications and those who want to continue with post-graduate studies. The programme could implement a clinical laboratory diagnostic track and a research-oriented track as follows:</p> <ul style="list-style-type: none"> - Clinical laboratory diagnostic track: the students who have the admission criterion of 1 year lab experience could select a clinical practicum in either a research lab or a clinical lab that performs research and continue with a Thesis II of 3 months in a research project which can be either research laboratory based or literature-based. - Research-oriented track: the students could perform clinical practicum in a research lab and continue with a Thesis II of 3 months with a full time experimental laboratory-based research project. 	<p>We want to thank the Committee for this suggestion. However, we want to clarify, as also noted by the Committee, that our program was meticulously designed and has been continually optimized with a specific intent: to train scientists aspiring to become certified clinical chemists effectively. The foundation, aims, and content of our master's program are aligned with the EFLM syllabus, which is a testament to our adherence to recognized European standards. This commitment to quality and specific training goals is transparently communicated in our promotional materials and is also clarified during interactions with prospective students.</p> <p>However, we also recognize the richness that diversity of intent brings to an academic program. While our primary focus remains on training future clinical chemists, we have noticed over the years that some students, driven by their unique motivations and goals, are keen on deepening their knowledge in immunology and hematology without necessarily aiming to become registered clinical chemists. These students bring a different perspective and set of aspirations, which enriches the overall academic discourse. As an educational institution, we believe in inclusivity and, thus, do not see it as fair or beneficial to exclude such students. Everyone with a genuine interest in the domain and the potential to contribute meaningfully should have the opportunity to be part of our academic journey</p>	<p>Choose level of compliance:</p>
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5. Learning resources and student support (ESG 1.6)

The EEC acknowledged the availability of all necessary teaching and learning resources, even under challenging circumstances. Furthermore, there is noticeable engagement among the teaching staff, as evidenced by their proactive approach towards adopting, assessing, and meticulously monitoring diverse pedagogical training methods. This level of commitment underscores their dedication to diligently evaluating educational outcomes. The committee observed that the university provides comprehensive support—both technical and pedagogical—for modern teaching methodologies, including Team-Based Learning strategies.

The EEC also noted the exceptional quality of student support based on unanimous positive feedback from student interviews regarding the course and its instructors. There were no grievances recorded in other student support-related areas.

Moreover, the committee highlighted various strengths of the programme, such as the availability of necessary teaching and learning resources and an ample number of qualified teaching staff relative to student numbers. The programme's structure, facilitating small classes, ensures intensive and constructive interactions between students and staff, a feature highly valued by the student body. With teaching staff actively engaged in current research and laboratories well-equipped for basic biomedical—including immunology and hematology—research, the program provides a robust educational environment. Support staff are committed to offering students a valuable learning and living experience.

The EEC made some recommendations for improving the programme in this area. These are documented in column 1 of the table. The corresponding responses and actions are provided in column 2.

Areas of improvement and recommendations by EEC	Actions Taken by the Institution	For Official Use ONLY
<p>5.1 Teaching and learning resources Some students requested more experimental training, and as outlined at several places in this document, the University should decide whether to properly train research-oriented students. If that is the case, more experimental training should be included in the courses.</p>	<p>We appreciate the Committee's query. However, we want to emphasize that our program's learning objectives, course content, and training methods are in strict alignment with both the EFLM and the European Qualification Framework's guidelines. It is worth noting that a significant proportion of our students come to us with extensive laboratory and research experience, with some even holding PhD degrees. Nevertheless, our program is designed to be versatile enough to train students aiming to become registered European clinical chemists and those who aspire to continue with their post-graduate studies. To ensure we cater to the latter, research-oriented students have the option to undertake lab-based research work for their thesis,</p>	<p>Choose level of compliance:</p>

	thereby acquiring the necessary hands-on research experience.	
Hands-on exposure to high-end and advanced analytical equipment, such as FACS, is recommended.	As highlighted by the committee below, experience with advanced equipment, such as FACS, can be acquired through collaborations with the Institute of Neurology and Genetics or the Karaiskakio Foundation, both of which are in close proximity. Additionally, as stated elsewhere in this report a flow cytometer will soon be installed in our laboratories.	Choose level of compliance:
An important strength is the ease with which students can contact and interact with the teaching staff. This should be cherished and maintained when student numbers are increasing	We thank the Committee for acknowledging this strength. As we grow and accommodate more students, we are committed to preserving this accessibility and ensuring that each student feels personally connected to our faculty. Your affirmation of this aspect will further motivate us to uphold this standard of interaction, regardless of how much we expand.	Choose level of compliance:
The laboratories are sufficiently equipped to perform the main molecular biological experiments and analyses, including the more immunology and hematology oriented experiments and analyses. Experience with advanced equipment such as FACS can be obtained by means of collaborations with either the Institute of Neurology and Genetics or the Karaiskakio Foundation, both of which are relatively close by.	We thank the Committee for acknowledging the adequacy of our laboratories in conducting primary molecular biological experiments, especially those oriented towards immunology and hematology. We recognize the significance of hands-on experience with advanced equipment like FACS. To this end, we are grateful for the proximity and the potential collaborative opportunities with esteemed institutions such as the Institute of Neurology and Genetics and the Karaiskakio Foundation. We're pleased to inform the committee that plans are already underway to further enhance our in-house capabilities. A flow cytometer, which is essential for FACS analysis, will soon be installed in our laboratories, ensuring that our students and researchers get the best hands-on experience without the need for external collaboration.	Choose level of compliance:
The human support resources appear to be excellent and the	We greatly appreciate the Committee's recognition of our	Choose level of compliance:



committee has no specific recommendations.	human support resources. Our dedicated team always strives to provide exceptional service and support. It's heartening to know that their efforts and excellence have been acknowledged. We will continue to invest in and prioritize our human resources to ensure that the quality and standards are maintained, if not elevated further.	
The student support appears to be excellent and the committee has no specific recommendations	We want to thank the Committee for recognizing our commitment to student support.	Choose level of compliance:



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

The EEC positively acknowledged the inception of the M.Sc. in Biomedical Sciences, designed meticulously to ensure the training of Clinical Laboratory Specialists aligns with imperative EU regulations and guidelines set by the European Federation of Clinical Chemistry & Laboratory Medicine (EFLM). This alignment is pivotal and a prerequisite for students eyeing registration as European Clinical Specialists. The program demonstrates strict adherence to policies and standards outlined by the Cyprus Agency of Quality Assurance and Accreditation in Higher Education (CYQAA). This adherence guarantees an unwavering commitment to quality, academic integrity, and robust support mechanisms for teaching staff, administrative personnel, students, and external collaborators and stakeholders.

The EEC highlighted numerous strengths inherent to the programme. Among these are the judicious integration of Immunology and Hematology, owing to their shared foundational elements, and the opportunity for students to engage in hands-on laboratory Clinical Practicum and Thesis work through collaborations with a network of laboratories. The low drop-out rate, aligned with a high completion rate indicates a program that meets and often exceeds student expectations.

Furthermore, the programme's visibility and student opportunities are significantly enhanced through an annual conference organized with the Association of Clinical Laboratory Directors, Biomedical, and Clinical Laboratory Scientists. The EEC noted with approval the innovative pedagogical methodologies deployed by the teaching staff, encompassing blended and case-based learning and experimental approaches like the flipped classroom, all underpinned by the necessary training and support infrastructure.

The EEC also noted that Significant flexibility embedded within the programme, particularly evident in the structure of Thesis II, provides an accommodating learning environment for students juggling various responsibilities, including full-time employment. Open channels of communication between teaching staff and students, coupled with opportunities for students to discuss and analyze real-life cases as part of the course, contribute to a rich learning experience.

The EEC also acknowledged the readily available and adequately maintained lab space and equipment, which significantly enriches the academic environment when combined with the teaching staff's active research engagements. The faculty's research understanding was identified as a distinct strength, enhancing the program's value proposition.

Additionally, the EEC observed no serious student grievances. The teaching staff's qualifications and credentials are adequate and align seamlessly with the program's overarching objectives and anticipated learning outcomes. The structure and content of the program are designed with an eye on maintaining, if not enhancing, the quality and sustainability of the teaching and learning processes.

Moreover, the programme's innovative pedagogical approaches, especially those leveraging the unique experiences of mature students, received a commendation. The EEC also appreciated the transparent and fair peer-review process and the active involvement of students in the teaching and assessment committees, underscoring the program's commitment to inclusivity and student engagement.

The EEC noted the successful recruitment strategy targeting professionals from Life and Health Sciences, meeting the increased demand for specialized postgraduate training in Biomedical Sciences, a trend spurred by recent changes in European regulations. The programme's sustainability and longevity are a testament to its ability to align with and meet student expectations and career aspirations, especially in Immunology.

As also noted by the Committee, with a favorable admissions policy that duly recognizes and credits candidates' previous laboratory and research experiences, the programme opens doors for professionals and scientists from Life and Health Sciences. The well-forged and strategic collaborations with diagnostic, clinical, and research laboratories further fortify the support structure for students engaging in clinical practicum and thesis work.

Finally, the committee lauded the availability of teaching and learning resources, the commitment of the teaching staff to continuous improvement, and the adoption of various pedagogical methods, all supported by the university's robust infrastructure. Positive student feedback and an advantageous student-to-staff ratio facilitate intensive and fruitful interactions. At the same time, well-equipped labs and actively researching teaching staff create a conducive environment for biomedical research, contributing to an overall valuable student experience.

The EEC made some general recommendations for improving the programme. These are documented in column 1 of the table. The corresponding responses and actions are provided in column 2.

Conclusions and final remarks by EEC	Actions Taken by the Institution	For Official Use ONLY
<p>The rationale to start with Immunology and Hematology is the fact that both disciplines share a common trunk that can form the basis of the programme. The committee agrees with this in principle but will argue below that the joint potential can be increased further. A possible red flag is that the committee noted that the European Federation of Clinical Chemistry and Laboratory Medicine syllabus categorizes Immunology together with Clinical chemistry (group B1), and not hematology. Hematology is instead grouped with blood transfusion including hemostasis and cellular immunology etc (B2).</p>	<p>We thank the Committee for the valuable comments and for appreciating that the combination of Immunology and hematology disciplines is reasonable as they share a common track. We would, therefore, like to elaborate more on the rationale of our program.</p> <p>We believe that the combination of immunology with hematology provides our students with a holistic understanding of certain concepts that cut across both disciplines, thus giving them a robust foundation. While we recognize the EFLM's categorization of Immunology with Clinical Chemistry (group B1) and Hematology with Blood Transfusion, including Hemostasis and Cellular Immunology (B2), our program's structure was designed to cater to the broader educational goals we set for our students, blending both practical relevance and academic rigor. Importantly, the concentration in hematology was introduced based on our feasibility study, which highlighted an increased need for hematologists in the current medical landscape. Furthermore, in recognition of the diverse fields within biomedical sciences and in line with our commitment to offer</p>	<p>Choose level of compliance:</p>

	<p>comprehensive training, we are actively considering expanding our program in due course to introduce additional concentrations in Clinical Biochemistry and Microbiology. This expansion is envisioned to offer our students a wider array of specialization options and further align with the classifications outlined by the EFLM.</p>	
<p>The number of teachers with hematology experience and training is very limited in the Department and the committee finds it crucial that experts, MDs as well as non-MDs, in clinical hematology, transfusion medicine/blood banking, and transplantation immunology become involved in the programme. This is critical for the credibility of the programme and to reach relevant and reasonable learning outcomes. A closer collaboration with the School of Medicines could accommodate part of these needs.</p>	<p>As discussed above, we have actively engaged an expert in clinical hematology to contribute to our program. Moreover, we are deepening our collaboration with UNIC's Medical School to integrate seasoned professionals in relevant domains further, ensuring our program remains robust and credible.</p>	<p>Choose level of compliance:</p>
<p>In the list of research areas and projects shown as part of the presentation of the School of Life and Health Sciences, Hematology (and in fact also Immunology) research is essentially lacking, although it was pointed out that hematological parameters and the immune response of young and elite soccer players are included in a current project in sports medicine at the Department of Life Science. Since an M.Sc. programme should consist of research-based education, this is a worry. The committee acknowledges that both topics can be "hidden" as part of other projects (particularly immunology) but it is a clear sign that especially hematology is not (so far) a focus area at the Department or School</p>	<p>We recognize that the explicit mention of these subjects might not have been apparent in our list. However, it is essential to understand that while the representation in the list might seem lacking, both Hematology and Immunology are integral parts of several interdisciplinary research endeavors at our institution. As the Committee rightly pointed out, the study of hematological parameters and immune responses in our sports medicine project is a clear testament to this integration. Our approach has been one of holistic research, where subjects like Hematology and Immunology are seamlessly integrated into larger, often interdisciplinary, research projects. We believe this approach allows us to harness the interconnectedness of various biological systems and drive innovation. That being said, we</p>	<p>Choose level of compliance:</p>

	<p>acknowledge the committee's concern, and we will ensure more explicit representation and emphasis on Hematology and Immunology in our future research endeavors and communications. Our commitment to these disciplines remains unwavering, and we are always exploring avenues to enhance their presence and significance in our department's research profile.</p>	
<p>The course objectives, and particularly the learning outcomes, proposed for the new Hematology and Immunohematology courses in the syllabus are either insufficient, not up-to-date and/or too extensive, i.e. thereby unrealistic in scope. This needs to be dealt with by updating/revising most of the learning outcomes. The committee thinks that also the immunology-related learning outcomes need an update because the content is no longer current. In this way, new methodology, concepts and therapies based on immunological approaches can be included. Having said this, the committee realizes that the syllabus needs to take into account the fact that the European Federation document from 2018 mentions many antiquated methods, but one can foresee a need of revision to future-proof also this document within the next few years.</p>	<p>We acknowledge and appreciate the committee's feedback regarding the need to update the course objectives and learning outcomes of the proposed Hematology, Immunohematology, and Immunology-related courses. In alignment with these recommendations:</p> <ol style="list-style-type: none"> 1. All course outlines have been meticulously revised to ensure they are both comprehensive and current. We enclosed the update course outline in the revised Application for evaluation document (Annex 2: Course Description, pp.45-76). 2. We recognize the importance of staying aligned with the EFLM syllabus. However, we concur with the committee's perspective on the need to modernize our course content. This is especially pertinent when addressing advancements in techniques and emerging diagnostic methodologies. We are committed to integrating these contemporary developments into our lectures. 3. To ensure the continuous relevance of our curriculum, we have instituted an annual review of our course syllabi. 4. Enclosed, please find the revised course syllabi reflecting these updates. 	<p>Choose level of compliance:</p>
<p>A specific recommendation is to introduce another joint required</p>	<p>As elaborated upon elsewhere in this report, we have adjusted the</p>	<p>Choose level of compliance:</p>

<p>course, one that will appeal to both students who have chosen the Immunology and Hematology concentrations, namely the expansive and very "hot" field of Immunotherapy.</p>	<p>content of a specific course for each concentration. Specifically, the courses "IMMU-544: Immunotechnology" (for the Immunology concentration) and "HEMA-542: Blood Disorders" (for Hematology) have been modified to encompass the principal topics of immunotherapy. We are enclosing the revised course outline in the revised Application for evaluation document (Annex 2: pp. 68-70, and 73-74 for IMMU-544 and HEMA-542, respectively).</p>	
<p>Another recommendation is based on the relative lack of new methods and techniques relevant for the rapidly moving fields of diagnostics in Immunology and Hematology. The committee thinks there should ideally be room for more hands-on practical course work related to such methods, or at least demonstrations. A good example of this was brought up during the site visits, when it was announced that a flow cytometer will be acquired later this year. It is actually surprising that it has been possible to run an immunology-heavy course at M.Sc. level without a flow cytometer close at hand. Having said that, the committee acknowledges the expertise of one of the teachers in this area and assume that visits have been arranged to labs that have the capacity to run flow cytometric applications including cell sorting etc.</p>	<p>We concur with the significance of hands-on practical coursework to keep pace with rapidly evolving methods and techniques. We are thrilled to announce the acquisition of a flow cytometer later this year, which will greatly enhance our capabilities in delivering a comprehensive and immersive learning experience. The mention of running an immunology-heavy course without immediate access to a flow cytometer is duly noted. We have taken measures to ensure that our students have access to this vital equipment through collaborations, as acknowledged in your report. Further, while our laboratories are equipped to perform primary molecular biological experiments, including those specific to immunology and hematology, we value our collaborations with both the Institute of Neurology and Genetics and the Karaiskakio Foundation. These partnerships not only provide our students with the experience of advanced equipment, such as FACS, but they also foster a system of shared knowledge and expertise.</p>	<p>Choose level of compliance:</p>
<p>The University finds research, measured in grants and peer-reviewed, Scopus-listed, publications important and even provides financial incentives for</p>	<p>As a progressive institution, we agree with the importance of focusing on the quality, impact, and citations of publications, rather than just their number. We are actively</p>	<p>Choose level of compliance:</p>

<p>publications. The committee advises to shift the focus from quantity to quality (impact/citations) of publications, in line with current world-wide developments to measure research impact.</p>	<p>considering revising our evaluation parameters and incentives to align with this more holistic view of research contribution, ensuring that we prioritize groundbreaking and impactful work over sheer volume.</p>	
<p>Importantly, the research interest and focus seem almost absent in the current M.Sc. programme, as it is e.g. possible to go through the programme without performing any research project. Furthermore, research was completely lacking in the programme's purpose and aims which were presented on a slide during the site visit. Related to this, a major problem for the course at large (even if Hematology would not be added as a concentration) is that it targets two very different groups: 1) those that need to upgrade their merits by obtaining the European qualifications to start or continue working as managers of clinical diagnostic services, and 2) others that would like to go into research and need a M.Sc. degree in a relevant biomedical subject to be able to follow up with a Ph.D. as the next step.</p>	<p>We want to emphasize that our M.Sc. program mandates all students to engage in either a literature-based or lab-based project. Notably, as highlighted by the Committee, our program offers students opportunities for laboratory-based Clinical Practicum and Thesis work, with a variety of collaborating laboratories available for selection. Students with extensive laboratory and research experience typically opt for a literature-based project, resulting in either a review or a systematic review article. Conversely, students aiming for a more hands-on approach, or those aspiring for a Ph.D., typically choose the lab-based project. It's noteworthy to mention that the outputs of both these endeavors have consistently been published in peer-reviewed journals. While our program indeed caters to two distinct groups, the curriculum is designed to ensure that upon graduation, all students are well-prepared for the subsequent steps in their respective careers.</p>	<p>Choose level of compliance:</p>
<p>This dichotomy poses a serious challenge for the current programme, which the committee feels would be helpful to address in one of two ways before the new programme can start: Either go for a more homogenous student group and cater specifically for them (in that case 1 year clinical lab experience should be obligatory for enrolment to the programme and result in a group of students who are there to obtain European level merits for a career in clinical diagnostics). This appears to have</p>	<p>As elucidated both in our application and during the Committee's site visit, our program was initially designed grounded on the EFLM syllabus with the objective of training scientists aspiring to be certified clinical specialists. It's important to highlight the dynamic nature of student aspirations. We have observed instances where students, initially keen on research, pivot towards clinical chemistry as they delve deeper into the coursework. Conversely, some students who begin with the intention of becoming</p>	<p>Choose level of compliance:</p>

<p>been the most common target student group so far.</p> <p>The alternative would be to create an additional track that is focused on students that are interested in and good at research and would like to pursue a Ph.D. In the guidelines of the European Federation of Clinical Chemistry and Laboratory Medicine syllabus it is clearly mentioned that a competence in research is of importance. This would imply that all students should do a research project during their M.Sc. training but this is currently not the case. The tension between students who want more hands-on lab experience and more research-oriented M.Sc. and those who do not see this as the most important was obvious during the site visit, both when talking to teachers and students.</p> <p>Of the two alternatives above, the committee favours to create a clinical diagnostics track and a research-oriented track that would differ as follows:</p> <p>1) A Clinical diagnostics track: one year lab experience required for enrolment + Placement in either a research lab or a clinical lab that does research + Thesis II of 3 months research project which can be either experimental laboratory based or a 3 months literature based research study.</p> <p>2) A research-oriented track: no requirement of clinical lab experience (but of course practical experience with molecular biomedical/biological analyses) + Placement in a research lab + Thesis II comprising a 3 months full-time experimental laboratory-based research project (Again, for this track the student must come from a B.Sc. programme that included sufficient practical training since this M.Sc. course does not include much practical training).</p>	<p>registered clinical specialists discover a passion for research and aspire to pursue a Ph.D.</p> <p>Recognizing this fluidity in career ambitions, we're contemplating mechanisms to cater to both student groups while maintaining flexibility more distinctly. Students inclined towards research or considering a subsequent Ph.D will undertake a comprehensive lab-based research project, ensuring they receive hands-on and robust research exposure during their M.Sc. training. We believe this approach not only addresses the committee's concerns but also offers students the adaptability they need as they hone their career objectives.</p> <p>While the dual-track approach is academically appealing, there are certain logistical realities that we face. Predominantly, the majority of our enrolled students each year express aspirations of becoming European clinical specialists. This demographic trend, in turn, poses challenges in achieving a balanced student distribution necessary for running both tracks simultaneously on an annual and sustainable basis.</p> <p>Considering these practical constraints and to ensure we maintain the quality and robustness of our training, we have decided to focus on the Clinical diagnostics track primarily. This decision aligns with our current student aspirations and allows us to optimize our program specifically for those aiming to become clinical diagnostic specialists. Additionally, with our strategic plan to integrate concentrations in Microbiology and Clinical biochemistry in the near future, we believe this singular focus will further strengthen our program's value proposition and relevance.</p>	
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<p>If the School/Department/teacher staff think that the above proposal is not practically possible, then we strongly recommend to go for only the Clinical diagnostics track and optimize this M.Sc. for clinical diagnostic specialists, especially when/if further topics expansion may occur towards Microbiology and Clinical biochemistry as planned</p>		
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C. Higher Education Institution academic representatives

<i>Name</i>	<i>Position</i>	<i>Signature</i>
Prof. Kyriacos Felekkis	Dean	
Prof. Eleni Andreou	Head of Department	
Dr. Christos Papanephytou	Program Coordinator /Associate Dean	
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: 05/10/2023

