

Doc. 300.1.2

Date: 21/02/2022

Higher Education Institution's Response

- **Higher Education Institution:**
University of Nicosia
- **Town:** Nicosia
- **Programme of study**
Name (Duration, ECTS, Cycle)

In Greek:
Φαρμακευτική (5 έτη/300ECTS, Ενιαίο και Αδιάσπαστο Μάστερ)
In English:
Pharmacy (5 Years/300ECTS, Integrated Master)
- **Language(s) of instruction:** Greek/English
- **Programme's status:** Currently Operating
- **Concentrations (if any):**

In Greek: Concentrations
In English: Concentrations



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

Introduction

We would like to thank the members of the External Evaluation Committee (EEC) for their professional and academic approach during the on-site evaluation of the programme and for producing a detailed evaluation report. We highly appreciate the EEC's constructive comments and recommendations for further improvement of our programme.

This evaluation adds value to our programme taking into consideration the EEC's members' expertise in the subject and/or related areas and we are very pleased that the EEC has concluded that the program is fully compliant with the requirements of an integrated Master degree in Pharmacy.

Below you will find detailed responses to all recommendations whilst the findings of the EEC have been summarized. Any comments coming directly from the EEC are shown in *italics*.

1. Study programme and study programme's design and development

(ESG 1.1, 1.2, 1.7, 1.8, 1.9)

The "Pharmacy (5 Years Integrated Master, 300 ECTS)" programme has been considered to be fully compliant in all criteria of this section.

As it is a new program, it has not a formal status and it is not publicly available. The program appears to comply with the purposes of higher education of the Council of Europe.

Response/Action: Based on the legal framework and the regulations of the CYQAA, all the information of the updated and re-accredited program will become publicly available only after the completion of the re-accreditation process. The EEC has confirmed that the program is compliant with the purposes of higher education in Europe.

General findings include:

- The program is generally well designed and balanced, in agreement with the European guidelines and International Pharmaceutical Federation (FIP) and caters to the needs of Pharmacy students.*
- The philosophy of the program gives emphasis to the practice of Pharmacy and prepares the students for the evolution in the field. However, there is a rather large emphasis on the chemistry courses.*
- The practical training is well structured and designed. There is an OSCEs exam at the end of the practical training that ensures that the learning outcomes are met.*
- The Pharmacy simulation laboratory is a good innovation that better prepares students for real life situations after graduation and during the practical training.*
- The adequate proportion of Pharmacists in the teaching staff is noted.*
- The ECTS allocated to the Thesis (30) are considered sufficient for an integrated Master degree.*

- *There appears to be a good opportunity for an interprofessional education in the future.*

Strengths

- *A good use of online resources to involve students and communicate with them is in place. The online platform is a very useful and innovative way to organise studies. This proved to be especially useful during the restrictive pandemic COVID19 measures.*
- *The “Lab In a Box” was an innovative and useful method to tackle the lab-teaching difficulties during the pandemic.*
- *A low drop-out rate is noted.*
- *The teaching staff is young, dedicated to the teaching and research activities and enthusiastic for their duties. The program director and the relative high proportion of the teaching staff are Pharmacists and this helps to promote the Pharmacy education-philosophy to the program.*
- *They seem to have a good connection with potential external stakeholders.*
- *The facilities and laboratory equipment are new and mostly sufficient.*
- *The ECTS units appear to be well balanced and distributed among courses.*

Areas of improvement and recommendations

- *The Department should have a more decisive role on the selection of pharmacies and preceptors and adequately prepare them for their role in the training of pharmacy students. This can be done by better vetting the premises and making sure that the preceptors understand and comply with the requirements of the university as described in the Practicum guide.*

Response/Action: We welcome this recommendation of the EEC.

Students have the liberty to select the pharmacy in which they will practice, taking always into consideration the terms and restrictions set by the regulatory body (Pharmacy Council). According to these, preceptor pharmacists should have at least three years of experience, they must not have any conflict of interests (not any direct relationship i.e family relationship, marriage, financial relationship) with the trainee, and they must be approved by the Competent Authority. In addition, every preceptor pharmacist must train only one student at a time

(<https://www.moh.gov.cy/moh/phs/phs.nsf/All/03C8883C526E7355C225857A003BFBC2?OpenDocument>)

Regarding the Academic monitoring, all the responsibilities and competences of the preceptor pharmacists and the trainee are detailed in pages 17-18 of the Practicum Guide (see Annex 1).

Towards the improvement of the procedure and having a more decisive role on the selection and training of the pharmacies and preceptors we are taking the following actions:

- In order to adequately prepare the preceptor pharmacists receiving our students for training, we have prepared a guide (Annex 2) explaining in detail the learning objectives of the practicum program, as well as the daily / weekly activities that the trainee has to perform and the preceptor pharmacist has to evaluate, as defined in the practicum guide. This presentation will be available on the moodle platform, along with a video of this presentation. The trainee will have to share this material with his/her preceptor
- Before the commencement of each trimester an on-line or on-site Q&A training session will be taking place explaining the preceptors in detail the learning objectives of the practicum program, as well as the daily / weekly activities that the trainee has to perform and the preceptor pharmacist has to evaluate, as defined in the practicum guide
- Trainees are providing feedback on their experience after the completion of each trimester. Based on this feedback, a list of pharmacists that are suggested by the university is compiled, as well as a list of pharmacists that got a negative review, hence are not recommended. In this feedback, a more specific question regarding the mentor has been added (Annex 3), as to whether the mentor followed the activities defined in the practicum guide, to facilitate the process. This will help trainees with the selection process.
- The process of the selection and training of the preceptors pharmacists, will be monitored by the Academic Clinical Placement Committee (ACPC) of the School of Life and Health Sciences. ACPC monitors all the academic aspects of clinical placement of the School, ensures a standardized monitoring practice, and solves any problems arising in the clinical/practicum setting. Additionally, ACPC works on future collaborations with clinical centers and pharmacies.
- *The program should focus more on the pharmaceutical courses such as pharmacology related subjects and lower the number of ECTS allocated to chemistry courses. Certain advanced chemistry courses could be included in elective courses.*

Response/Action: We agree with this EEC's constructive recommendation, which is in line with the philosophy, the aims and objectives of our program and enhance the clinical role of the future pharmacists. Based on that, we have now made the amendments on the ECTS of the following courses, lowering the ECTS of Chemistry Courses and increasing the ECTS to Pharmacology related courses, without any changes to the semester breakdown.

Course code – Name	Old ECTS Number	New ECTS Number	Semester
PHAR-151 Organic Chemistry	8	6	B'
PHAR-112 Physiology and Pathophysiology	5	6	B'
PHAR-123 Molecular Biology and Genetics	4	5	B'
PHAR-210 Physical Chemistry and Physical Pharmacy	7	6	C'
PHAR-200 Introduction to Pharmacy Practice	5	6	C'
PHAR-340 Medicinal Chemistry III	6	5	E'
PHAR-365 Pharmacology and Therapeutics I	6	7	E'

Annex 4 contains all the new ECTS allocation of the courses after accepting the recommendation of the EEC.

- *The number of elective subjects should be increased and diversified to include for example, radiopharmacy, hospital pharmacy, Therapeutic Drug Monitoring (TDM), pharmaceutical nanotechnology and biostatistics.*

Response/Action:

Two new elective courses have been added to the list of the elective courses as follows:

- PHAR-466 Advanced Drug Delivery Systems (which includes pharmaceutical nanotechnology)
- PHAR-486 Biostatistics

Regarding the other suggestions, we incorporated TDM within the PHAR-460 Therapeutics/Clinical Pharmacy elective module and “hospital pharmacy” in a clearer way within the PHAR-400 Pharmacy Practice I course.

These new and updated course descriptions can be found in Annex 5.

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

The “Pharmacy (5 Years /300 ECTS, Integrated Master)” programme has been considered to be fully compliant in all criteria of this section.

Findings

- *Adequate proportion of pharmacists in the teaching staff is reiterated.*
- *The pharmaceutical care skills are adequately taught prior to entering the practical training.*
- *There appears to be a good basis for interprofessional training.*
- *The OSCEs exams are well utilized to assess the clinical skills of students.*
- *Based on students’ comments, the exam load during the semester could be reduced in favour of actual teaching and learning activities.*

Strengths

- *A good learner-teacher relationship is promoted as students have good access to teaching staff.*
- *The teaching and the administrative staff respect and attend to the diversity and the needs of students.*
- *The teaching tools are modern and effective.*
- *Innovative didactic ideas like “Lab in a box” and the simulation pharmacy are noted.*

Areas of improvement and recommendations

- *It is recommended that the temporal spacing of exams is increased.*

Response/Action: We consider the temporal spacing of the exams as satisfactory. The final exams schedule is centrally organized by the Department of Academic Affairs, according to the Academic Calendar (<https://www.unic.ac.cy/wp-content/uploads/2021/07/UNIC-Academic-Calendar-2021-2022-EN.pdf>), which is approved by the Senate. The examination period is extended to 2 ½ weeks. Special provision is taken in order students to have time gaps between the examination of different courses, so the students have an exam every third of fourth day.

- *Based on students’ feedback, it is recommended that a practical training opportunity in pharmaceutical industry is also included in the program.*

Response/Action: We believe that for our students, gaining experience in Community Pharmacy and Hospital Pharmacy settings is regarded as an issue of the utmost importance for their professional development and hence they should complete 6 months training in such settings as the core of their practicum which is supervised and assessed by the Pharmacy program.

Although practicing in the Pharmaceutical Industry can be beneficial such activity, if has a compulsory character, poses several practical difficulties and are under regulatory and functional restrictions:

- limited number of Pharmaceutical manufacturing sites where students could practice, most of them are located in specific geographical areas where most of the students don't reside permanently,
- limited number of Pharmacists working in the industry so that the students would have a Pharmacy Mentor, many different Departments within each site with many and versatile tasks makes training objectives/outcomes and training assessment difficult,
- regulatory requirement of six months mandatory training in hospital and/or community pharmacy setting.

Thus, we suggest to our students to complete 6 months of mandatory practicing in Community and/or Hospital Pharmacy settings and optionally practice in the Pharmaceutical Industry (before or after that 6-month practicum period), where they will not be supervised nor assessed by the Pharmacy program. We have signed MOUs with several pharmaceutical industries located in Cyprus and we encourage our students who are interested in practicing in the pharmaceutical industry to do so, after completing their 4th year of studies.

3. Teaching staff (ESG 1.5)

The “Pharmacy (5 Years /300 ECTS, Integrated Master)” programme has been considered to be fully compliant in all criteria of this section.

Findings

- *The recruitment and development of teaching staff is well organized and transparent. This results in high competence of the teaching staff.*
- *The teaching staff is young and enthusiastic with good publication record, and this is certainly a strong point in the program.*

Strengths

- *The teaching staff is young and enthusiastic for teaching and research. There appears that good communication and rapport between tutors and students has been established. The students were satisfied with their teachers as far as teaching and communication are concerned. The teaching staff appear to employ a variety of modern and innovative teaching methodologies and tools. The proportion of pharmacists in the staff is satisfactory and contributes to the overall quality of the program and to the strengthening of the pharmacy philosophy and orientation of the studies.*

Areas of improvement and recommendations

- *It is of concern that as the Thesis will be increased to 30 ECTS there will be increased pressure on teaching staff to supervise and guide students to do research for the Thesis. Collaborations with other Departments like the School of Medicine, the hospital and industrial sectors could be strengthened in order to reduce this pressure regarding the supervision of students’ Theses.*

Response/Action: We thank the EEC for this constructive comment.

Conduction of thesis by the students is one of their major academic activities. Supervision is a well-defined interpersonal relationship between the thesis supervisors and their students thus we acknowledge the increasing pressure on the teaching staff after the increase of the ECTS of the Final Project to 30, in order to comply to the integrated master requirements. Supervisor must always be a Research Teaching Faculty of the University of Nicosia (full time or Adjunct) or a Visiting Faculty member.

According to the current procedure of the allocation/selection of topics, Faculty Members (Full time, Visiting Faculty or Adjunct faculty) provide a list of topics/titles along with short summary of the topic.



The call of topics/titles proposal is also open to other faculty members of the School of Life and Health Sciences that their research interests are within the Pharmacy discipline, i.e Biotechnology, Cancer Biology, Microbiology, etc.

In addition to the current practice, the new structure of the Health programs of the University of Nicosia has brought together the Medical School, the School of Life and Health Sciences and the Veterinary School (under accreditation). This has allowed the establishment of a Joint Steering Committee, which coordinate activities between the three schools, and has agreed to collaborate on student thesis supervision by the three Schools faculty members, promoting intersectional research.

Additionally, students can benefit from exchange programs, and conduct part or all their final project abroad to institutions where we have research collaborations and Erasmus + agreements.

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

The “Pharmacy (5 Years /300 ECTS, Integrated Master)” programme has been considered to be fully compliant in all criteria of this section.

Findings

- *The program has pre-defined and published regulations regarding student admission.*
- *The progression of students is well described and monitored by faculty.*
- *There are appropriate teaching and administrative measures in place to ensure students’ progression.*
- *The university adopts policies to promote the international mobility of the students of the program.*
- *The diploma is accompanied by an appropriate diploma supplement document.*

Strengths

- *The admission criteria of students are well defined.*
- *The program includes a practical training module.*
- *The process and guidelines for the thesis are well described in the materials and are accessible to students.*
- *There are many good quality textbooks and online resources associated with the courses and these are made available online and through the library to the students.*

Areas of improvement and recommendations

- *Student mobility through the available European programs (e.g. Erasmus) should be encouraged and further strengthened.*

Response/Action: Pharmacy Programme has agreements with several institutions within EU for student and faculty exchange. We are also in the process of signing new agreements with other institutions. Currently our students are eligible to participate to Erasmus mobility & Erasmus traineeship programs. Students prefer to take the opportunity to participate to the Erasmus traineeship programs and conduct part or all their preregistration practice abroad under this scheme. An average number of 50-70 students/year are benefited from this.

Additionally, the updated form of the Pharmacy Programme offers more opportunities for the students to benefit from student exchange programs especially, those who want to conduct part or all their final project abroad, to institutions where we have research collaborations and Erasmus + agreements.

5. Learning resources and student support (ESG 1.6)

The “Pharmacy (5 Years /300 ECTS, Integrated Master)” programme has been considered to be fully compliant in all criteria of this section.

Findings

The facilities and the laboratory equipment are adequate to support the program. The teaching material is adequate and easily accessible to students. The University has the necessary facilities and infrastructure for both distance teaching and teaching in the classroom as well as to perform self-study.

Strengths

- *The availability of modern teaching facilities facilitates teaching activities, tutor-student communication and effective interaction.*
- *Student mentoring and support are well organised and implemented.*

Areas of improvement and recommendations

- *The capacity of cutting-edge research could be further strengthened with the availability of core facilities such as modern analytical equipment (NMR and solid-state NMR as well as electronic microscopes).*

Response/Action: The equipment of the Pharmacy program, as well as the core equipment of the School of Life and Health Sciences are quantitatively and qualitatively adequate and support effectively teaching and research. Of course, there is always room for improving the quality and quantity of new research instruments or to update the existing infrastructure. We consider the purchase of new equipment as a continues process.

Regarding the promotion of cutting-edge research, and especially for modern analytical equipment such as NMR, solid-state NMR and electronic microscopes, we have access to such facilities under our collaborations and bilateral agreements with several Institutes and Universities in Cyprus and abroad. For example, there is access at the Department of Electron Microscopy/Molecular Pathology (EMMP) at the Cyprus Institute of Neurology and Genetics (CING), where the Transmission Electron Microscopy is located. It is important to note that an agreement is in place between UNIC and CING that includes the mutual use of equipment.

In addition, at the same Department there is an ESI-MALDI-qTOF Mass Spectrometer ready to employ research on protein-protein interactions through ion mobility experiments. Moreover, the availability of the core facility of the NMR and the solid-state NMR is ensured by our collaboration with both University of Cyprus in Nicosia, the University of Ioannina in Greece and the State Chemistry Laboratory of the Republic of Cyprus.

Finally, additionally to the existing equipment, the Pharmacy programme is in the process of purchasing a fluorometer.

- *The opportunities for interprofessional learning in a real-world clinic should be implemented and utilized.*

Response/Action:

One of the strategic aims of the School of Life and Health Sciences is the provision of interactive and/or interprofessional learning experiences to the students of the various healthcare disciplines (Medicine, Pharmacy, Nursing, Dietetics, Physiotherapy).

Through the M.Pharm programme curriculum, students are introduced to the roles of other members of the multidisciplinary health care team in their courses, such as Introduction to Pharmaceutical Sciences and Professional Practice (PHAR-104), Pharmacy Practice courses (PHAR-200, PHAR-400, PHAR-401 and Social Pharmacy PHAR-485). Especially in the PHAR-200, PHAR-400, PHAR-401 courses some OSCEs scenarios are based on the communication of a Pharmacist and a Medical Doctor.

During the Pharmacy practice period, students have the opportunity to learn within multi-disciplinary teams for the purpose of patient care. This is clearly stated in the Practicum Guide, page 5, section 1.1.1 Interprofessional relationships:

“Pharmacists should work in collaboration with other healthcare professionals to optimize patient safety and improve health outcomes.

Pharmacists and other health professionals are extremely busy. As a result, in order to maintain professionalism and keep teamwork efficient, it is essential for the pharmacist to know the products and be able to quickly provide information (e.g., dosage, packaging size, price, alternative medication), where it may be required. Based on the above, emphasis is given to the importance of maintaining adequate sources of information and being familiar with their content.

It is important for the supervising pharmacist - mentor to review with the trainee the following topics:

- **Professional ethics**

The pharmacist should act in accordance with the principles set out in the Pharmacy Code of Ethics. Occasionally, the pharmacist may doubt the treatment or medication prescribed by the attending physician. In this case, the pharmacist should contact the physician and verify the medication that is administered to the patient. Patient well-being is always the priority.

OTHER HEALTH PROFESSIONALS MUST **NEVER** BE DISCREDITED TO PATIENTS

- **Communication with healthcare professionals**

The following tasks should be reviewed between the mentor and the trainee and gradually, with increasing levels of responsibility, the trainee should become familiar with:

- Clarifying unusual doses (high or low).
- Requesting clarification in cases of possible therapeutic problems and omission errors, as well as proposing alternative treatments to physicians.
- Consulting with the physician when a patient receives lower or higher drug dose.
- Informing the physician in case of suspected adverse drug reactions, side effects, toxicity and interactions.
- Providing drug-related information (e.g. composition, availability, dosage, usage, classification, nomenclature, administration technique and special formulations).
- Notifying the physician about any non-prescribed medication that the patient uses simultaneously with the prescribed medication.”

However, we acknowledge that further work is needed to provide a more systematic approach to Interprofessional Education. In order to achieve this, the Head of Interprofessional Learning for the Medical School and Dr Aiki Peletidi from the Pharmacy programme have already begun to work on interprofessional educational activities. Such priority actions underway are:

- the interprofessional activities in the clinical setting of the UNIC Primary Care Clinic (located in the same building with the Pharmacy Program premises),
- common PBL sessions in Pharmacology courses between the Pharmacy and MD students

Also, plans have been submitted for the establishment of a pharmacy next to the Primary Care Clinic



6. Additional for doctoral programmes (ALL ESG)

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7. Eligibility (Joint programme) (ALL ESG)

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B. Conclusions and final remarks

We would like to sincerely thank the EEC for the dedicated work and invaluable comments provided both within the report and the fruitful discussion during the visit. We are particularly pleased with the very positive report and of the final conclusion the EEC came into, 'that the program is fully compliant with the requirements of an integrated Master degree in pharmacy'.

The following recommendations would in the opinion of the EEC contribute to the improvement of the evaluated program.

- *The Department should have a more decisive role on the selection of pharmacies and preceptors and adequately prepare them for their role in the training of pharmacy students. This can be done by better vetting the premises and making sure that the preceptors understand and comply with the requirements of the university as described in the Practicum guide (Answer/Action in page 5, Section 1).*
- *The program should focus more on the pharmaceutical courses such as pharmacology related subjects and lower the number of ECTS allocated to organic and synthetic chemistry courses. (Answer/Action in page 5, Section 1).*
- *The number of elective subjects should be increased and diversified to include for example, radiopharmacy, hospital pharmacy, Therapeutic Drug Monitoring (TDM), pharmaceutical nanotechnology and biostatistics. (Answer/Action in page 6, Section 1).*
- *Collaborations with other Departments like the School of Medicine as well as the hospital and industrial sectors could be strengthened in order to reduce this pressure regarding the supervision of students' Theses. (Answer/Action in page 8, Section 3).*
- *Student mobility through the available European programs (e.g. Erasmus) should be encouraged and further strengthened. (Answer/Action in page 9, Section 4).*
- *A practical training opportunity in pharmaceutical industry could also be advantageously included in the program. (Answer/Action in page 7, Section 2).*

Action/Response: No further comments were made by the EEC

C. Higher Education Institution academic representatives

<i>Name</i>	<i>Position</i>	<i>Signature</i>
Prof. Kyriacos Felekkis	Head of Department	
Dr Christos Petrou	Associate Professor Program Coordinator	
Click to enter Name	Click to enter Position	
Click to enter Name	Click to enter Position	
Click to enter Name	Click to enter Position	
Click to enter Name	Click to enter Position	

Date: 21/02/2022

ANNEXES

1. Annex 1: Exert from the Practicum Guide (Responsibilities of the trainee)
2. Annex 2: Guide for the preparation of the preceptor pharmacists (English and Greek versions)
3. Annex 3: Practice Feedback form
4. Annex 4: Course Distribution per Semester and list of courses.
5. Annex 5: New and Updated course descriptions
 - a. PHAR-466 Advanced Drug Delivery Systems (new course description)
 - b. PHAR-486 Biostatistics (new course description)
 - c. PHAR-460 Therapeutics/Clinical Pharmacy (updated course description)
 - d. PHAR-400 Pharmacy Practice (updated course description)