Regulations for the Interdepartmental Postgraduate Program of the Medical School and the Department of Pharmacy of the School of Health Sciences of the National and Kapodistrian University of Athens entitled "Nanomedicine" ("MSc in Nanomedicine")

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## Article 1 - SUBJECT-PURPOSE

1.1 The purpose of the Postgraduate Program in Nanomedicine is to provide high-level postgraduate education in the scientific field of Nanomedicine.
1.2 The M.Sc. program leads to the award of a Master's Degree in Nanomedicine upon full and successful completion of the studies based on the curriculum.
1.3 The degrees are awarded by the Medical School of the National and Kapodistrian University of Athens with reference to the Department of Pharmacy.
1.4 Specifically, the fundamental purpose of the MSc program is to provide specialized training to students so that, upon completion of their education, they will be able to:

- Understand the basic principles of operation and behavior of matter at the nanoscale, acquiring the necessary foundations in a range of scientific fields, such as physics, chemistry, and biology.
- Be familiar with the basic types of nanosystems widely used in pharmaceutical products and vaccine manufacturing, as well as the techniques for characterizing their physicochemical properties.
- They are familiar with the applications of nanoparticles in the treatment of various diseases, as well as delving into new scientific fields, such as theranostics and regenerative medicine, based on nanoparticles.
- Understand the mechanisms of nanotoxicity and be familiar with the regulatory and economic aspects of nanomaterials.
- Acquire skills related to bibliographic searching and the proper selection of relevant articles, with the aim of writing scientific articles, both individually by writing a thesis, and as a team through group projects carried out in each module.

## Article 2 - STRUCTURE AND BODIES OF THE POSTGRADUATE PROGRAM

The bodies responsible for the operation of the Postgraduate Program in accordance with Law 4957/2022 are:
2.1 At the institutional level, the bodies responsible are the
2.2 At the level of the Medical School, the competent bodies are:

2.2.1 The Curriculum Committee of the Postgraduate Program in Nanomedicine. The responsibilities of the Curriculum Committee are to:
a) Recommend to the Senate, through the Assembly of the School of Medicine, the need to amend the Master's Program, as well as to extend its duration,
b) appoint the Director and members of the Coordination Committee of the M.Sc. program,
c) set up committees to evaluate the applications of prospective graduate students and approve their enrollment in the M.Sc. program,
d) assigns teaching duties among the instructors of the M.S.P. and may request at the meetings of the collaborating Departments the assignment of additional teaching duties in the M.S.P. to their doctoral candidates under the supervision of a lecturer of the Postgraduate Studies Program,

e) forms examination committees to examine the theses of postgraduate students and appoints a supervisor for each thesis,
f) verifies the successful completion of studies and awards the Master's Degree,
g) approves the report of the Postgraduate Studies Program,
h) recommends to the Assemblies of the collaborating Departments the assignment of postgraduate students to carry out auxiliary teaching work in first-cycle study programs of the collaborating Departments,
i) exercises any other legal authority.

2.2.2 The Coordinating Committee (CC)
The CC consists of the Director of the Postgraduate Program and two (2) members of the teaching staff of the Medical School as well as two (2) members of the teaching staff of the Department of Pharmacy and associate professors who have relevant knowledge in the field of the Postgraduate Program and undertake teaching duties in the Postgraduate Program. The members of the CC are appointed by decision of the Assembly of the Medical School. The S.E. is responsible for monitoring and coordinating the operation of the program and, in particular:
a) Prepares the initial annual budget of the Postgraduate Studies Program and its amendments, provided that the Postgraduate Studies Program has resources available, and recommends its approval to the Research Committee of the Special Research Fund Account (ELKE),
b) prepares the program's financial report and recommends its approval to the assembly of the Medical School,
c) approves the expenditure of the D.P.M.S.,
d) approves the awarding of scholarships, whether reciprocal or not, in accordance with the provisions of the decision establishing the D.P.M.S. and the Regulations for postgraduate and doctoral studies,
e) recommends to the Medical School Assembly the distribution of teaching duties, as well as the assignment of teaching duties,
f) recommends to the Medical School Assembly the invitation of Visiting Professors to cover the teaching needs of the Postgraduate Studies Program,
g) prepares a draft amendment to the curriculum, which it submits to the Assembly of the Medical School,
h) recommends to the Medical School Assembly the redistribution of courses between academic semesters, as well as issues related to the qualitative improvement of the curriculum.

2.2.3 The Director of the Postgraduate Studies Program
The Director of the Postgraduate Studies Program is selected from among the faculty members of the Medical School or the Department of Pharmacy of the National and Kapodistrian University of Athens, with priority given to professor or associate professor and is appointed by decision of the Curriculum Committee of the Postgraduate Program in Nanomedicine for a two-year term, with the possibility of renewal without restriction.
The Director of the Postgraduate Studies Program has the following responsibilities:
a) Chairs the Program Committee, drafts the agenda and convenes its meetings,
b) proposes issues concerning the organization and operation of the D.P.M.S. to the Curriculum Committee of the D.P.M.S. Nanomedicine,

c) proposes to the S.E. and other bodies of the D.P.M.S. and the A.E.I. issues related to the effective effective operation of the D.P.M.S.,
d) is the Scientific Director of the program and exercises the corresponding responsibilities,
e) monitors the implementation of the decisions of the bodies of the D.P.M.S. and the Internal Regulations postgraduate and doctoral programs , as well as monitoring the implementation of the budget of the D.P.M.S.,
f) exercises any other responsibility, which is defined in the decision establishing the D.P.M.S. The Director of the Postgraduate Studies Program, as well as the members of the Executive Committee, are not entitled to remuneration or any compensation for the performance of the duties assigned to them and related to the performance of their tasks.

2.3 Administrative support for the Postgraduate Studies Program
a) The Secretariat of the Medical School is responsible for the administrative and secretarial support of the Postgraduate Studies Program.
b) The Postgraduate Studies Program has its own resources and may, in accordance with the applicable legislation, external collaborators for secretarial and administrative support, who are again under the supervision of the Secretariat of the Medical School.

## Article 3 - CATEGORIES AND NUMBER OF ADMISSIONS

3.1 Graduates of universities from Schools/Departments of Medicine, Pharmacy and other fields related to nanomedicine from domestic departments or departments of recognized equivalent institutions abroad, as well as graduates of Technical Educational Institutes (TEI) in related fields.
3.2 The maximum number of students admitted to the Postgraduate Studies program is set at forty (40) in total. The maximum number admitted students is determined according to the number of teachers in the Postgraduate Studies Program and the student-teacher ratio, the material and technical infrastructure, the classrooms, and the absorption of graduates by the labor market.
3.3 In addition to the number of admissions, one (1) member of the EEP, EDI, and ETEP categories per year, provided that the work they perform at the Institution is related to the subject area of the Postgraduate Program.
3.4 IKY scholarship holders and foreign scholarship holders of the Greek state, for the same or a subject related to that of the Postgraduate Program, are admitted without examinations.

## Article 4 - ADMISSION PROCEDURE

4.1 Students are selected in accordance with the applicable legislation, the Regulations for Postgraduate and Doctoral Studies at the National and Kapodistrian University of Athens, and the provisions of this decision.

4.2 Every May, by decision of the Program Committee of the Postgraduate Program in Nanomedicine, an announcement is published and posted on the website of the Postgraduate Program, the collaborating Departments, and the Institution for the admission of postgraduate students to the Postgraduate Program. The relevant applications, together with the necessary supporting documents, are submitted to the Secretariat of the Postgraduate Program by a deadline specified in the announcement, which may be extended by decision of the Program Committee of the Postgraduate Program in Nanomedicine.

4.3 The Program Committee assigns to the S.E. the process of selecting admitted students.

4.4 The necessary supporting documents are:
- Application form (provided by the Secretariat
of the M.Sc. Program).
- Complete curriculum vitae.
- Photocopy of both sides of the applicant's identity card.
- Copy of degree or certificate of completion of studies.
- Detailed transcript of undergraduate courses.
- Certificate of proficiency in English. If language proficiency is not certified by a B2 level diploma or higher, it may be certified by examination through a corresponding decision of the Curriculum Committee.
- Letters of recommendation (at least two, which must include the full name, title, address, and telephone number of the author).
- Recognition of foreign academic qualifications by the Hellenic National Academic Recognition Information Center (DOATAP).

4.5 For students from foreign institutions who do not submit a certificate of recognition of academic qualifications from DOATAP, the following procedure is followed: The Study Program Committee appoints a committee responsible for determining whether a foreign institution or a type of foreign institution degree is recognized.
The committee checks whether a foreign institution or a type of foreign institution title is included in the relevant Register of Foreign Institutions maintained and updated by DOATAP. If the foreign institution is included in the list institutions listed in Article 307 of Law 4957/2022, then the candidate is required to submit a certificate of study, which is issued and sent by the foreign university. If the place of study or part thereof is certified as being in Greece, the degree is not recognized, unless the part of the studies that took place in Greece was at a public university.

4.6 Candidates are evaluated and selected for admission based on the following criteria:

1. The degree grade is evaluated with six (6) points per grade and a maximum of sixty (60) points.
2. Professional experience in the field of health is evaluated with one (1) point per year of work and a maximum of five (5) points.
3. Professional experience in the field of nanomedicine is evaluated with one (1) point per year of work and a maximum of five (5) points.

4. The number of publications in international peer-reviewed scientific journals is evaluated with one (1) point per publication and a maximum of five (5) points.

5. The number of presentations at scientific conferences is evaluated with one (1) point per presentation and a maximum of five (5) points.

6. Excellent knowledge of the English language is evaluated with five (5) points.

7. Participation in educational seminars is evaluated with one (1) point per day of educational seminar and a maximum of five (5) points.

8. The motivation letter is evaluated with a maximum of ten (10) points.

Total points: 100 points

4.7 Based on the overall criteria, the S.E. compiles the student evaluation table and submits it for approval to the Program Committee of the D.P.M.S. Nanomedicine. Successful candidates must register with the Secretariat of the Postgraduate Program within thirty (30) days of the decision of the Postgraduate Program Committee of the Postgraduate Program in Nanomedicine. In the event of a tie (with mathematical rounding to the nearest whole number on a scale of 100), the tied candidates will be admitted, up to a percentage not exceeding 10% of the maximum number of admissions. In the event that one or more students do not enroll, the alternates (if any) will be invited to enroll in the M.Sc. program, based on their order in the approved evaluation table. The final list of admitted candidates will be posted on the website of the Department of Biomedical Sciences.

## Article 5 DURATION OF STUDIES

5.1 The duration of studies in the intensive Master's Degree Program leading to the award of a Master's Degree is set at one (1) academic year without summer breaks [two (2) semesters and summer period], which includes the time required to complete the thesis.

5.2 An extension is possible, upon a justified request by the student and approval by the Program Committee of the Postgraduate Program in Nanomedicine. The extension shall not exceed two (2) semesters. Thus, the maximum time allowed for completion of studies is set at four (4) academic semesters.

5.3 The following are eligible to apply for part-time study: a) Students who can prove that they work at least twenty (20) hours per week, b) students with disabilities and special educational needs, c) students who are also athletes and, during their studies, belong to sports clubs registered in the electronic Register of Sports Clubs of Article 142 of Law 4714/2020 (A' 148), kept by the General Secretariat of Sports (G.S.S.) under the following conditions: ga) for the years in which they rank 1st to 8th in national individual sports championships with the participation of at least twelve (12) athletes and eight (8) clubs, or compete in teams of the two (2) highest categories in team sports, or participate as members of national teams in European championships, world championships or other international events under the Greek Olympic Committee, or (b) participate at least once during their studies in the program for which they are applying for part-time status in

Olympic, Paralympic, and Deaflympic Games. Students in this sub-case may enroll as part-time students, following their application approved by the Dean of the School. The duration of part-time study shall not exceed twice the duration of normal study. The maximum duration of study also applies in this case.

5.4 Students who have not exceeded the maximum duration of study, upon submission of a justified application to the Program Committee of the D.P.M.S. "Nanomedicine" of the Medical School, may interrupt their studies for a period not exceeding two (2) consecutive semesters. Suspension of studies is granted for serious reasons (military service, illness, maternity leave, absence abroad, etc.). The application must be justified and accompanied by all relevant supporting documents from the competent public authorities or organizations, proving the reasons for the suspension of studies. Student status is suspended during the period of interruption of studies and participation in any educational process is not permitted. The semesters of suspension of student status are not counted towards the maximum duration of normal studies. At least two weeks before the end of the suspension of studies, the student is required to re-enroll in the program in order to continue his/her studies with the rights and obligations of an active student. Students may, upon request, interrupt their suspension of studies and return to the program only if they have requested a suspension of studies for two consecutive academic semesters. The application to terminate the suspension of studies must be submitted no later than two weeks before the start of the second semester of the suspension.

5.5 The duration of the suspension or extension of the period of study is discussed and approved on a case-by-case basis by the S.E., which makes a recommendation to the Program Committee of the D.P.M.S. "Nanomedicine" of the School of Medicine.

## Article 6 - STUDY PROGRAM

6.1 The MSc program begins in the winter semester of each academic year. The program is completed in one academic year without summer breaks [two (2) semesters and summer period].

6.2 To obtain a Master's Degree, a total of seventy-five (75) credit units (ECTS) are required. All courses are taught weekly and, where appropriate, include practical exercises and seminars.

6.3 The language of instruction and writing of the master's thesis is English.

6.4 During their studies, postgraduate students are required to attend and successfully pass postgraduate courses, conduct research and write scientific papers, as well as and a postgraduate thesis.

6.5 The thesis is started in the spring semester, continues during the summer period, and is credited with twenty-five (25) ECTS.

6.6 Courses are taught in person or remotely, in accordance with current legislation and the provisions of Article 7 of this decision.

6.7 The indicative course program is structured as follows:

| A' Semester | | |
|---|---|---|
| Lessons | Teaching Hours | ECTS |
| Basic Principles I | 13*3 weeks | 6 |
| Basic Principles II | 13*3 weeks | 6 |
| Basics of Nanomedicine | 13*3 weeks | 6 |
| Basic Applications of Nanotechnology in Therapy | 13*3 weeks | 6 |
| Theranostics and Regenerative Medicine | 13*3 weeks | 6 |
| Total | 195 | 30 |
| | | |
| B' Semester | | |
| Lessons | Teaching Hours | ECTS |
| Toxicity Aspects & Current Nanodrugs | 13*3 weeks | 5 |
| Advanced Topics | 13*3 weeks | 5 |
| Encironmental Aspects | 13*3 weeks | 5 |
| Ethics and Regulatory Aspects | 13*3 weeks | 5 |
| Dissertation | | 25 |
| Sum | 156 | 45 |

B. Course content/description

1. Basic Principles I

Nanoscience and Nanotechnology are relatively young scientific and nanotechnological fields which investigate the structure, properties, morphology and functionality of nanomaterials and nanostructures. Nanotechnology is a collective term for a range of scientific fields, technologies, techniques, processes and applications that involve the treatment and the investigation of matter at nanoscale. Nanoscience and nanotechnology can offer advantages in the development process of new drugs and they represent a new approach to research in this field. These areas offer benefits for the development of innovative products and promote new properties of the materials used, which could be essential in the effectiveness of the final product. Scientists in this field work at the atomic, molecular and supramolecular levels, and can manufacture new nanodevices and nanosystems with new properties and functions. Nanotechnology is the scientific area of the design and the development of devices at the mesoscopic and molecular scale. These systems could be correlated to the living organisms due to their self-assembly properties, their hierarchical structural organization, as well as to their biocompatibility and biodegradability characteristics. The main types of nanosystems are lipid (i.e. liposomes, transferosomes etc.), polymeric (i.e. micelles, polymersomes etc.) and inorganic (i.e. gold nanoparticles etc.).

2. Basic Principles II

The physicochemical characteristics of nanosystems (play a key role on administration, distribution, metabolism, and excretion (ADME profile) of the encapsulated Active Pharmaceutical Ingredients (APIs) or the imaging agent. The most important techniques including light scattering (dynamic, static, and electrophoretic), thermal analysis (especially differential scanning calorimetry), and imaging techniques are presented for the physico- chemical characterization of nanosystems. These techniques are used extensively for the detailed characterization of nanosystems i.e., in the research and development of innovative nanocarriers, and are required from the regulatory authorities. This lesson also addresses the applications of quantitative imaging to study multiple physiological variables of living tissues. Protocols are presented for investigations ranging from in vitro cell and tissue approaches to in vivo imaging of intact organs. These include the measurement of cytosolic parameters both in vitro and in vivo. Additionally, Magnetic Resonance Imaging (MRI), an imaging technique primarily used as diagnostic tool in clinical/preclinical research, will be analyzed in depth. Cell and Molecular Biology area will focus on cancer, cell biology and cellular dynamics, plant biology and bioenergetics. Experimental approaches in cell signaling and differentiation, molecular biology, proteomics, genomics and genetics, and advanced cell imaging are interwoven throughout these major focus areas.

3. Basics of Nanomedicine
This lesson is an introduction in topics such as pharmacokinetics, pharmacodynamics, metabolism and absorption of nanodrugs, as well as in their role in immunology and more precisely their application in procedures regarding vaccination. Mainly this course includes information about lipid nanosystems found in modern vaccines and in polymers used in pharmaceutics. In addition to that, there is an introduction in nanomedicine and its application cosmetology, as the mechanisms that nanoparticles interact with the skin were discussed. Finally, the stability of those nanoparticle-based drugs is discussed.

4. Basic applications of nanotechnology in therapy
This lesson is dedicated to the utilization of nanotechnology into treating several types of diseases, in cardiology and pharmacology, as well as in skin diseases. Additionally, applications in radiotherapy, orthopedics and in surgery are discussed.

5. Theranostics and regenerative medicine
Theranostics is a new field of medicine which combines specific targeted therapy based on specific targeted diagnostic tests. The theranostics paradigm involves using nanotechnology to unite/combine diagnostic and therapeutic applications to form a single nanocarrier, allowing for diagnosis, drug delivery and treatment response monitoring. Micro-nano fabrication and cell patterning, Molecular markers for medical imaging and Image processing will be analyzed for building up nanoparticle-based theranostics. Tissue engineering evolved from the field of nanobiomaterials development and refers to the practice of combining biopolymers, scalffolds, cells, and biologically active molecules into functional tissues. The goals of tissue engineering and regenerative medicine are to assemble functional constructs that restore, maintain, or improve damaged tissues or whole organs using types of embryonic, fetal and adult stem cells.

6. Toxicity Aspects και Current Nanodrugs

Nanotoxicology involves different aspects of science, from molecular biology to quantum physics and chemistry and lays the foundations for eliminating all risks related to nanoparticles manufacturing and their applications. The major obstacle associated with nanoparticles hazardous impact determination is the variety of parameters that are suspects of their adverse effects. It is widely known that nanoparticles, dosage, size, composition, aggregation, surface charge, structure and chemistry even the route of administration and the exposure duration, are the main characteristics upon which Nanotoxicity depends. Clinical Nanomedicine deals with the use of nanomedicines in clinical use and practice. Special attention will be given to cancer nanotherapy. There are several liposomal and polymeric drugs in market approved by FDA and EMA. In this lesson, case studies and examples will be presented focusing on the advantages of nanocarriers in clinical use.

7. Advanced topics
Applications of Neural Networks, Regression models and Classification problems are increasingly applied in Pharmacy owing to the rapid development of technology in the last 10 years. In this course an introduction in concepts like prediction, characterization and optimization of pharmaceutical formulations with artificial neural networks, as well as their applications on drug design and testing will be held. Furthermore, a concise introduction in Chaos Theory in Pharmacy will also be delivered. Namely, this topic will include details about complex and critical phenomena with application to liposomal systems, as well as pharmaceutical applications of chaos theory and fractal geometry concluding to the value and perspective of applying complexity in Pharmaceutics.

8. Environmental aspects
Air and water pollutants including particulate matter and toxic gases, dyes, organic materials, and oil spoils, released from different industrial and human activities possess threats to human health and environment crisis, globally. Nanotechnology is a promising approach to overcome all these problems due to the unique properties of nanotechnology-based nanomaterials make them appropriate for air pollution abatement. From this perspective, the possible replacement of conventional energy supplies with nano-based ones is the first topic that is going to be discussed. The second issue focuses on the eco-effectiveness of nanotechnology and the potential use of recycle and reuse of photocatalysts. Finally, the green synthesis of nanoparticles is another sub-unit of this lecture.

9. Ethics and regulatory aspects
III.1. Regulatory and Ethics in Nanomedicine.
III.2. Intellectual properties. Patenting and Commercialization of Biotech and Medtech Inventions. The entire "product life cycle," from the creation of nanomedical products to their final market introduction will be discussed in the above lesson. While focusing on critical issues relevant to nanoproduct development and translational activities, it tackles topics such as regulatory science, patent law, FDA and EMA law, ethics, personalized medicine, risk analysis, toxicology, nanocharacterization and commercialization activities.

10. Dissertation

The dissertation (or final year project), is taking place after the end of the lessons and may last until mid- September. The expectation is that the student takes responsibility for his own learning, and he produces a literature review, chooses a method for undertaking a study, writes up his findings and discusses the outcomes in a discussion section. The work for dissertation may be either a literature review or a small research project that lasts for two- three months. Students are supervised by a faculty member during their work and finally after the completion of their thesis they are examined by a three-member committee.

## Article 7 DISTANCE LEARNING

The educational process of the Postgraduate Program may also be organized using modern distance learning methods.
The organization of courses and other educational activities using modern distance learning methods concerns courses and educational activities that, by their nature, can be supported by the use of distance learning methods and do not involve practical, laboratory, or clinical training for students, which requires the physical presence of students.
The Digital Governance Unit of the University of Athens is responsible for supporting the distance learning process, as well as for issues related to the protection of personal data. The University of Athens maintains an electronic platform accessible to persons with disabilities, through which asynchronous distance learning services are provided. Educational material for each course may be posted on the electronic platform, which may include notes, presentations, exercises, indicative solutions to these, as well as video-recorded lectures, provided that the applicable legislation on the protection of personal data is complied with. All educational material is provided exclusively for the educational use of students and is protected by Law 2121/1993 (A' 25), provided that the relevant conditions are met.

## Article 8 - EXAMS AND EVALUATION OF POSTGRADUATE STUDENTS

8.1 The educational work of each academic year is divided into two semesters, winter and spring, each of which includes at least thirteen (13) weeks of teaching and three weeks of examinations. (3) weeks of examinations. The courses of the winter and spring semesters are re-examined during the period of September.

8.2 In the event of a course being canceled, a replacement course will be provided. The date and time of the replacement course will be posted on the D.P.M.S. website.

8.3 Attendance at courses is compulsory. A postgraduate student is considered to have attended a course (and therefore is entitled to take the exams) only if they have attended at least 80% of the course hours. Otherwise, the postgraduate student is required to retake the course during the following academic year.

If a student's absences exceed 20% of the total number of courses, the issue of expulsion is raised. This issue is examined by the Special Committee of the Postgraduate Program in Nanomedicine.

8.4 The evaluation of postgraduate students and their performance in the courses they are required to attend as part of the Postgraduate Program is carried out at the end of each semester with written or oral exams in combination with assignments throughout the semester. The method of assessment is determined by the instructor of each course. When conducting written or oral examinations as methods of assessment, the integrity of the process is mandatorily ensured. Grading is on a scale of 1-10. The results of the examinations are announced by the instructor and sent to the Secretariat of the Postgraduate Studies Program and the School of Medicine within four (4) weeks of the course examination at the latest. In the event that a lecturer repeatedly exceeds the above limit, the Director of the Postgraduate Studies Program informs the Program Committee of the Postgraduate Studies Program in Nanomedicine.

8.5 The percentage of assignments in the final grade for each course is determined separately for each course, following a recommendation by the instructor of each course, and is listed in the Postgraduate Program Study Guide.

8.6 In order to deal with emergencies or circumstances of force majeure, alternative assessment methods may be applied, such as written or oral examinations using electronic means, provided that the integrity of the assessment process is ensured.

8.7 Alternative methods may be applied for the assessment of students with disabilities and special educational needs following a decision by the S. E. and a recommendation from the Department's Committee for Students with Disabilities, taking into account the relevant guidelines of the Accessibility Unit for Students with Disabilities.

8.8 The assessment of students in second-cycle study programs organized using distance learning methods may be carried out through distance examinations, provided that the integrity of the assessment process is ensured.

8.9 In cases of illness or recovery from serious illness, it is recommended that the instructor facilitate the student in any way he/she deems appropriate (e.g., oral remote examination). During oral examinations, the instructor shall ensure that he/she is not alone with the student being examined.

8.10 Courses in which a student has not received a passing grade must be repeated. However, a laboratory or exercise that is graded separately is certified and does not need to be repeated, provided that attendance has been deemed successful.

8.11 Grade correction is permitted if there has been an obvious oversight or cumulative error, following a document from the relevant instructor and a decision by the Program Committee of the Postgraduate Program in Nanomedicine. of the Postgraduate Program in Nanomedicine.

8.12 If a student fails the same course more than three (3) times, the procedure laid down by the applicable legislation shall be followed.

8.13 Written examinations must be kept for two (2) years by the person responsible for the course.

8.13 Written examinations must be kept by the course coordinator for two (2) years. After this period, the written examinations cease to be valid and the Program Committee Program Committee of the D.P.M.S. Nanomedicine. unless there is a pending criminal, disciplinary, or any other administrative procedure.

8.14 To calculate the degree grade, the weighting of each course in the curriculum is taken into account and expressed by the number of credit units (ECTS). The number of ECTS credits for the course is also the weighting coefficient for that course. To calculate the degree of the qualification, the grade for each course is multiplied by the corresponding number of credits (of the course) and the total sum of the individual products is divided by the total credit units required to obtain the degree. This calculation is expressed by the following mathematical formula:

$$\text{Βαθμός πτυχίου/διπλώματος} = \left(\sum_{k=1}^{N} \text{ΒΜ}_{\kappa} \cdot \text{ΠΜ}_{\kappa}\right)_{/\Sigma\Pi\text{Μ}}$$

Where: N = number of courses required to obtain the corresponding degree
ΒΜκ = grade for course k
ΠΜκ = credit units for course k
ΣΠΜ = total credit units required to obtain the corresponding degree
In order to obtain a Master's Degree, each postgraduate student must attend and successfully pass all compulsory courses and complete a postgraduate thesis, thus accumulating seventy-five (75) ECTS.

## Article 9 - PREPARATION OF POSTGRADUATE DIPLOMA THESIS

9.1 The assignment of a postgraduate diploma thesis (PDT) takes place after attending all courses of the study program and successfully passing the exams.

9.2 The PDT must be individual, original, research-based, and written in accordance with the writing guidelines posted on the website of each D.P.M.S.

9.3 Upon request by the candidate, which includes the proposed title of the thesis, the supervisor, and a summary of the proposed work, the Program Committee appoints the supervisor and forms a three-member examination committee for the approval of the thesis, one of whose members is the supervisor. The language of the master's thesis is English.

9.4 The title of the thesis may be finalized upon request by the student and with the consent of the supervisor to the Coordinating Committee of the M.Sc. program. The request must include a brief justification for the change.

9.5 In order for the thesis to be approved, the student must defend it before a three-member examination committee.

9.6 The supervisor and the members of the three-member examination committee for the master's thesis are appointed from the following categories of teaching staff at the Postgraduate Studies Program: a) Members of the Teaching and Research Staff, Special Teaching Staff, Laboratory Teaching Staff and Special Technical Laboratory Staff of the Medical School and the Department of Pharmacy or other departments of the National and Kapodistrian University of Athens or other Higher Education Institution or Higher Military Education Institution, with additional employment beyond their legal obligations, b) emeritus professors or retired members of the teaching staff of the Medical School and the Department of Pharmacy or other departments of the University of Athens or other HEIs, c) collaborating professors, d) appointed lecturers, e) visiting professors or visiting researchers, f) researchers and specialist operational scientists from research and technological bodies referred to in Article 13A of Law 4310/2014 (A' 258) or other research centers and institutes in Greece or abroad. By decision of the Study Program Committee, the supervision of dissertations may also be assigned to members of the teaching staff, EEP, ETEP, and EDIP of the Medical School and the Department of Pharmacy who are not teaching in the Postgraduate Studies Program.

9.7 Once approved by the examination committee, master's theses must be posted on the "PERGAMOS" Digital Repository, in accordance with the decisions of the Senate of the National and Kapodistrian University of Athens.

9.8 If the thesis contains original, unpublished results, only the abstracts may be published on the website, upon request by the supervisor, co-signed by the postgraduate student, and the full text may be published at a later date.

## Article 10 - OBLIGATIONS AND RIGHTS OF POSTGRADUATE STUDENTS

10.1 Postgraduate students have all the rights and benefits provided for undergraduate students, until the end of any extension of study granted, except for the right to free textbooks .

10.2 The Institution ensures that students with disabilities and/or special educational needs have access to the recommended textbooks and teaching materials (https://access.uoa.gr/).

10.3 The EKPA Liaison Office provides counseling support to students on issues related to their studies and professional rehabilitation (https://www. career.uoa.gr/ypiresies/).

10.4 Postgraduate students are encouraged to participate in and attend seminars of research groups, bibliographic information discussions, laboratory visits, conferences/workshops on topics related to the MSc program, lectures or other scientific events of the MSc program, etc.

10.5 The Program Committee of the M.Sc. in Nanomedicine, following the recommendation of the S.E., may decide to expel graduate students if:

- they exceed the maximum number of absences,
- they have failed a course or courses

and have not successfully completed the program,
in accordance with the provisions of these regulations,

- they exceed the maximum duration of study in the

M.Sc. program, as defined in this decision,

- they have violated the provisions in force regarding

the handling of disciplinary offenses by the
competent disciplinary bodies,

- they do not pay the prescribed tuition fee,
- they submit a request for withdrawal themselves.

10.6 In the event that a postgraduate student is withdrawn from the Postgraduate Program, they may request a certificate for the courses in which they have been successfully examined.

10.7 Students may participate in international student exchange programs, such as the ERASMUS+ or CIVIS programs, in accordance with applicable legislation. In this case, the maximum number of ECTS credits that can be recognized is thirty (30). This option is available after the first semester of their studies. Students must submit an application to the S.E. and comply with the terms of the program. The M.Sc. program can also be attended by students from international student exchange programs such as the ERASMUS+ program, in accordance with the agreements that have been concluded.

10.8 Postgraduate students of the National and Kapodistrian University of Athens may enroll in a postgraduate program of the same or other universities in Greece or abroad within the framework of educational or research cooperation programs in accordance in accordance with the applicable legislation.

10.9 It is possible to study simultaneously in an undergraduate program and a postgraduate program or in two (2) Postgraduate Programs of the same or another Department, of the same or another HEI

10.10 At the end of each semester, each course and each lecturer is evaluated by the postgraduate students (see Article 16) .

10.11 Postgraduate students may request a diploma supplement in Greek and English.

10.12 For their participation in the Postgraduate Program in Nanotechnology, postgraduate students pay tuition fees amounting to one thousand euros (€1,000.00) per semester. The fee is paid at the beginning of each semester.

## Article 11 TUITION FEE EXEMPTION

11. 1 Postgraduate students who meet the financial or social criteria and the requirements for excellence in the first cycle of studies, in accordance with the legislation in force, are exempt from tuition fees. This exemption is granted for participation in a single postgraduate program. In any case, the number of students exempted shall not exceed thirty percent (30%) of the total number of students admitted to the postgraduate program per academic year.

11.2 The application for exemption from tuition fees is submitted after the completion of the selection process for students of the M.Sc. programs. The financial situation of a candidate shall in no case constitute a reason for non-selection to the Postgraduate Program.

11.3 Those who receive a scholarship from another source, as well as citizens of countries outside the EU, are not eligible for exemption.

11. 4 The criteria for exemption from tuition fees are examined by the Program Committee of the Postgraduate Program in Nanomedicine of the School of Medicine, and a reasoned decision on the acceptance or rejection of the application is issued. "Nanomedicine" of the Medical School, and a reasoned decision on the acceptance or rejection of the application is issued.

11.5 Since the applicable legislation sets an age criterion, it is recommended, for reasons of good administration and equal treatment, that the date of birth of students be considered to be December 31 of the year of birth.

11.6 Members of the EEP, EDIP, and ETEP categories who are accepted as supernumeraries in accordance with provision 3.3 of these regulations are exempt from paying tuition fees.

11.7 In the event that members of the same family up to the second degree of kinship by blood or marriage are studying simultaneously in a postgraduate program of the Institution, there is the possibility of a 50% reduction in the tuition fees payable.

## Article 12 - INFRASTRUCTURE AND FUNDING OF THE POSTGRADUATE PROGRAM

12.1 For the smooth operation of the Postgraduate Program, classrooms and seminar rooms, amphitheaters equipped with audiovisual media and laboratories of the Medical School and the Department of Pharmacy of the University of Athens.

12.2 Administrative and secretarial support for the Postgraduate Program is provided by the Secretariat of the Medical School of the National and Kapodistrian University of Athens.

12.3 The funding of the Postgraduate Program may come from: a) tuition fees, b) donations, sponsorships, and financial support of any kind, c) bequests, d) resources from research projects or programs, e) own resources of the Higher Education Institution (HEI), and f) the state budget or public investment program. g) any other legal source.

12.4 Tuition fees are paid by the student himself/herself or by a third natural or legal person on behalf of the student, if this is provided for in the decision establishing the Postgraduate Program.

12.5 The resources of the Postgraduate Studies Programmes of the Higher Education Institution are managed by the Special Research Fund Account (ELKE) of the National and Kapodistrian University of Athens.

12.6 The resources of the Postgraduate Studies Programmes are allocated as follows:
a) an amount corresponding to thirty percent (30%) of the total revenue from tuition fees is retained by the E.L.K.E. This amount includes the percentage withheld in favor of the ELKE for the financial management of the D.P.M.S. When the revenues of the D.P.M.S. come from donations, sponsorships, and financial support of any kind, bequests, or resources from research projects or programs, the E.L.K.E. withholding applies to the income from corresponding funding sources, and b) the remaining amount of the total income of the D.P.M.S. is allocated to the E.L.K.E. L.K.E. applicable to income from corresponding sources of funding,
b) the remaining amount of the total income of the D.P.M.S. is allocated to cover the operating expenses of the D.P.M.S.

## Article 13 ASSIGNMENT OF TEACHING/TEACHERS IN THE INTERDEPARTMENTAL POSTGRADUATE STUDIES PROGRAMMES (I.P.S.P.)

13.1 Teaching duties for Interdepartmental Postgraduate Programs (D.P.M.S.) are assigned, following a decision by the D.P.M.S. "Nanomedicine" of the Medical School to the following categories of teaching staff: a) members of the Teaching and Research Staff (Δ.Ε.Π.), Special Teaching Staff (Ε.Ε.Π.), Laboratory Teaching Staff (E.D.I.P.) and Special Technical Laboratory Staff (E.T.E.P.) of the collaborating Departments or other Departments of the National and Kapodistrian University of Athens (N.A.U.A.) or other Higher Education Institution (HEI) or Higher Military Educational Institution (ASEI), with

additional employment beyond their legal obligations, b) emeritus professors or retired members of the teaching staff of the collaborating Departments or other Departments of the University of Athens or other Higher Education Institutions, c) collaborating professors, d) appointed lecturers, e) visiting professors or visiting researchers, f) researchers and specialist operational scientists from research and technological bodies referred to in Article 13A of Law 4310/2014 (A' 258) or other research centers and institutes in Greece or abroad, g) scientists of recognized standing who have specialized knowledge and relevant experience in the subject area of the P.M.S.

13.2 All categories of teaching staff may be remunerated exclusively from the resources of the Postgraduate Program. No remuneration or other benefits may be paid from the state budget or the public investment program. The amount of remuneration for each instructor is determined by decision of the Program Committee of the Postgraduate Program in Nanomedicine. Specifically, lecturers who are members of the teaching staff may be remunerated additionally for work they offer to the Postgraduate Program, provided that they fulfill their minimum legal obligations, as defined in paragraph 2 of Article 155 of Law 4957/2022. The last sentence applies mutatis mutandis to members of the EEP, E.D.I.P. and E.T.E.P. members, provided that they fulfill their minimum legal obligations.

13.3 The Study Program Committee recommends to the Assemblies of the collaborating Departments that postgraduate students/ to carry out auxiliary teaching work in first-cycle study programs of the collaborating Departments, under the supervision of a lecturer of the Postgraduate Program.

13.4 The assignment of teaching duties for the Postgraduate Program is carried out by decision of the Postgraduate Program Committee of the Postgraduate Program "Nanomedicine" of the Medical School, following a recommendation by the Program Committee of the D.P.M.S. The decisions of the Program Committee of the D.P.M.S. "Nanomedicine" for the allocation of teaching duties must include the following information: a) the name of the lecturer, b) their status (e.g., member of the teaching staff, EEP, EDI, ETEP, etc.), c) the type of teaching work assigned to each lecturer (course, seminar, or workshop), d) the number of teaching hours per course, seminar, or workshop.

13.5 The distribution of teaching duties is carried out before the start of the academic year for both the winter and spring semesters. In the event that the distribution of teaching duties cannot be carried out simultaneously for both academic semesters, the decision will be made before the start of each academic semester. With a reasoned decision of the Program Committee of the M.Sc. in Nanomedicine, the assignment of teaching duties may be modified during the academic year.

13.6 Lecturers who are on educational leave or suspension of duties may provide teaching work to the MSc program if they consider that their program allows it, provided, of course, that this is essentially and practically feasible under the current circumstances, which is a matter that must be decided on a case-by-case basis, allows it, provided, of course, that based on the current circumstances, this is essentially and

practically feasible, an issue which must be judged by the competent authority on a case-by-case basis.

## Article 14 - AWARD OF POSTGRADUATE DIPLOMA

14.1 Students complete their studies to obtain a Postgraduate Diploma (M.Sc.) by completing the minimum number of courses and credit units required for the M.Sc., as well as the successful completion of the postgraduate thesis. The Program Committee of the M.Sc. in Nanomedicine verifies the completion of studies in order to award the Master's Degree (M.Sc.).

14.2 Upon completion of the above procedure, the postgraduate student is awarded a certificate of completion of studies, loses his/her student status, and ceases to participate in the collective administrative bodies of the University.

14.3 The M.Sc. certifies the successful completion of studies and records the grade, accurate to two decimal places, according to the following scale: Excellent (8.5 to 10), Very Good (6.5 to 8.5, not inclusive) and Good (5 to 6.5, not inclusive).

14.4 The type of Master's Degree per type of Postgraduate Program is common to all Departments and Schools of the National and Kapodistrian University of Athens and is included in the Institution's Regulations for Postgraduate and Doctoral Studies.

14.5 Within the framework of the M.Sc. program, a Master's Degree in "Nanomedicine" is awarded.

## Article 15 SWORNING-IN CEREMONY

15.1 The swearing-in ceremony is not a formal requirement for the successful completion of studies, but it is a necessary prerequisite for the award of the diploma. The oath is administered by the Postgraduate Studies Program Committee at the School of Medicine or the School of Health Sciences, in the presence of the Director of the Postgraduate Studies Program, the President of the Medical School, or the Dean of the School of Health Sciences or his/her Deputy and, if possible, a representative of the Rector.

15.2 Requests for the swearing-in ceremony of postgraduate students in the Grand Ceremony Hall of the Central Building are examined on a case-by-case basis by the Rector, based on an assessment of the possibilities and the number of students to be sworn in, as reported by the Secretariat of the Postgraduate Studies Program to the Directorate of Education and Research.

15.3 Postgraduate students who have successfully completed the Postgraduate Program, in exceptional cases (studies, residence or work abroad, health reasons, etc.),

may apply to the Secretariat of the Medical School for an exemption from the obligation to take the oath. Exemption from the obligation to register is approved by the Director of the Postgraduate Program and the Vice-Rector for Academic Affairs, International Relations, and Outreach.

## Article 16 - EVALUATION OF THE POSTGRADUATE PROGRAM

16.1 Evaluation by the National Authority for Higher Education.
The Postgraduate Program is evaluated as part of the periodic evaluation/certification of the Medical School organized by the Hellenic Authority for Higher Education (HAHE). In this context, the overall assessment of the work carried out by each M.Sc. program, the degree to which the objectives set at the time of its establishment have been achieved, its sustainability, the absorption of graduates into the labor market, the degree of contribution to research, its internal evaluation by postgraduate students, the advisability of extending its operation, as well as other information relating to the quality of the work produced and its contribution to the national strategy for higher education. If, during the evaluation stage, the M.Sc. program is deemed not to meet the conditions for continuing, it shall continue to operate until the graduation of students already enrolled, in accordance with the decision establishing it and the regulations governing postgraduate and doctoral programs of study.

16.2 Internal evaluation
The internal evaluation of the P.M.S. is carried out on an annual basis by the Quality Assurance Unit (MO.DI.P.) of the Institution. All those involved in the implementation of the actions and activities of the P.M.S. program, and more specifically, students, members of the teaching staff, administrative and technical support staff, and members of the Coordinating Committee of the P.M.S. program. The internal evaluation process is carried out in accordance with the applicable legislation, the Internal Quality Assurance System of the Institution, and the guidelines and standards of the HAHE. The internal evaluation of the Postgraduate Studies Program includes the assessment of the teaching work, as well as all its academic functions and activities.
More specifically, the following are evaluated:
a) The content of the Study Program in accordance with the latest research in the specific subject area of the Postgraduate Program, so as to ensure the contemporary nature of the Postgraduate Program,
b) the workload of the courses, as well as the progress and completion of postgraduate studies by students,
c) the degree to which students' expectations are met by the Study Program, the support services offered support services for their studies, and the learning environment, based on questionnaires completed by students of the Postgraduate Program.

The use of the evaluation results and their disclosure are defined in the relevant Regulations and aim at the sustainability of the Program, the high level of studies, the improvement of its benefits, and the efficiency of its teachers. More specifically, the results of the evaluation are confidential and constitute personal data, in accordance

with the existing legal framework, i.e., their publication is prohibited. This fact, which is independent of the wishes and intentions of the "Nanomedicine" Postgraduate Program, makes it extremely difficult to put them to practical use. For this purpose, the "Nanomedicine" Postgraduate Program provides for their use in two different directions, one relating to teachers and one relating to courses and their content:

- With regard to teachers, the results are used by the Director of the "Nanomedicine" Postgraduate Program, who is responsible for actions (e.g., recommendations, etc.) to address cases that systematically present serious problems in their evaluation by students. The director takes into account both the reliability of the results (number of evaluations) and their systematic nature, since it is possible for fragmentary and small sample results to lead to artificially very negative (or very positive) evaluations.
- With regard to courses and content, the main responsibility lies with the Curriculum Committee, and more specifically with regard to the introduction of improvements and changes to the "Nanomedicine" MSc program.

Despite the above limitations, the use of the evaluation results has led to specific outcomes, some of which are listed below as examples:

- Removal from the program of two instructors who consistently had a rating below 3.
- In several courses, students complained about the late updating of electronic notes and presentations on the EKPA electronic platform. The problem was acknowledged and instructors were asked to provide their presentations before the course took place, so that students could access the material as soon as possible.
- -There was a strong desire among students to see the practical application of what they were studying during the MSc program. The problem was recognized, and now at least one visit is made to a pharmaceutical company in the country that uses nanoparticles in the products it manufactures.

Overall, and in line with the above, there is a clear effort to regularly monitor, monitoring, and reviewing the MSc program, which aims to maintain the level of educational benefits and create a supportive and effective learning environment for students. For this reason, the internal evaluation includes the content of the curriculum, the changing needs of society and the alignment of the curriculum, the workload, the progress and completion of postgraduate studies, the effectiveness of student assessment procedures, student expectations and needs, as well as their satisfaction with their curriculum, and finally the learning environment, support services, and their suitability for the Master's Program in Nanomedicine.

## Article 17 - DURATION OF THE POSTGRADUATE PROGRAM

The Postgraduate Program will operate until the academic year 2033-2034, provided that it meets the criteria of internal and external evaluation, in accordance with applicable legislation.

## Article 18 - TRANSITIONAL PROVISIONS

Students who are already enrolled shall complete their studies in accordance with this decision. For matters not specified in the applicable legislation, the Regulations for Postgraduate and Doctoral Studies of the National and Kapodistrian University of Athens, or this decision, the bodies of the Postgraduate Studies Program shall be responsible for deciding. This decision shall be published in the Government Gazette.