



HELLENIC REPUBLIC

**National and Kapodistrian
University of Athens**

—EST. 1837—

**SCHOOL OF HEALTH SCIENCES
DEPARTMENT OF PHARMACY**

SCHOOL OF HEALTH SCIENCES

PHARMACY DEPARTMENT

MSc PROGRAMME « *Drug Design and Development* »

Studies Guide

ACADEMIC YEAR 2022 - 2023



HELLENIC REPUBLIC

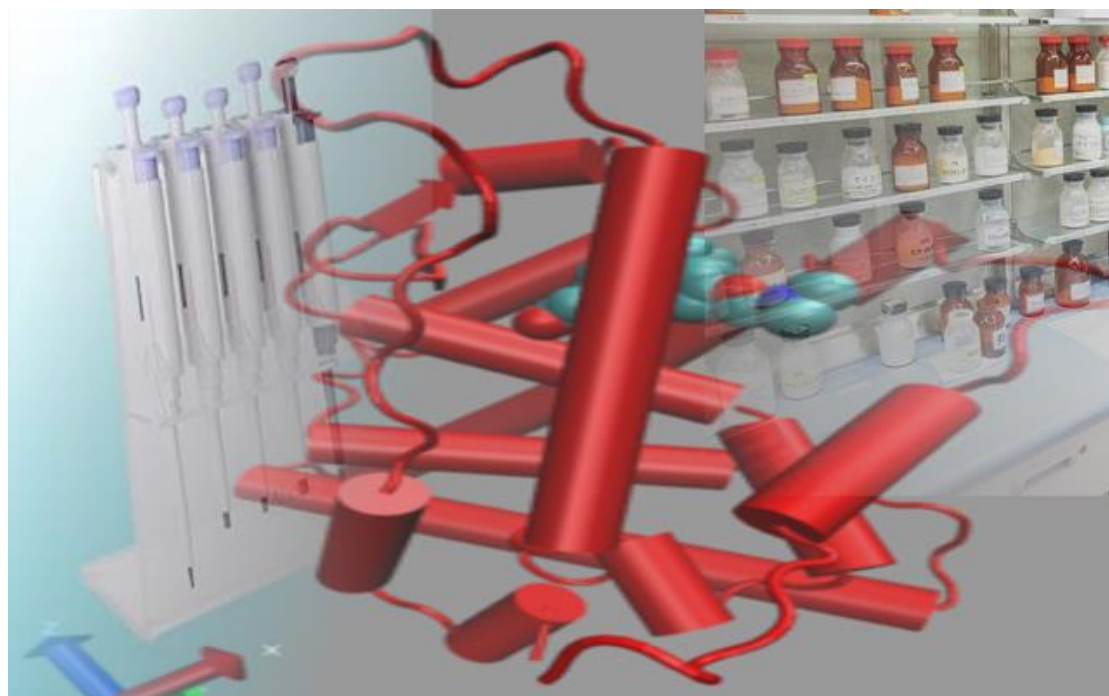
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**MSc Programme
Drug Design and Development
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**Academic year
2022 - 2023**

PREFACE

The main purpose of the present Study Guide is to inform the postgraduate students about the Postgraduate Studies Programme (MSc) " Drug Design and Development" of the Section of Pharmaceutical Chemistry of the Department of Pharmacy of the National and Kapodistrian University of Athens (N.K.U.A.), Greece, for the academic year 2022-2023.

This guide provides detailed information on:

- The history, infrastructure and operation of the N.K.U.A. and the Department of Pharmacy.
- The courses offered by the MSc programme and the respective syllabus
- The instructors per course
- The operating regulations of the MSc
- The provided services, which coincide with those offered at the undergraduate level.

Furthermore, an advisory service for issues of concern to the students of the Department has been recently setup (*vide* weblink: <http://www.pharm.uoa.gr/symplhrwmatikes-yphresies-gia-toys-foithtes-toy-tmimatos/symboylos-ka8hghtis.html>), as well as the electronic address [suggestions\[at\]pharm.uoa\[dot\]gr](mailto:suggestions[at]pharm.uoa[dot]gr) for suggestions, on behalf of the students, regarding the improvement of the services provided by our Department. It is recommended that students frequently visit the website of the Department of Pharmacy of the N.K.U.A., in order to keep up to date with the various current issues, as well as any changes in the regulations.

The successful completion of the postgraduate course of studies, through the active participation of the students in the lectures and the research work they will carry out, aims at ensuring that they receive excellent scientific training, so that they become highly qualified for their own benefit and the society's, as a whole.

All teaching staff of the MSc is at the disposal of the students, in order to deal with any difficulties regarding educational and research issues that might be arisen.

Athens, March 2023

The Coordinating Committee of the MSc Programme

Tsotinis Andrew, Professor (Director of the MSc Programme)

Marakos Panagiotis, Professor

Kourounakis Angeliki, Professor

Pouli Nicole, Professor

Andreadou Ioanna, Professor

Kolokouris Antonio, Professor

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1. HISTORY AND ORGANIZATION OF THE NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS

1.1. FOUNDATION – HISTORICAL NAMES

The "Hellenic University of Othon" was founded in 1837 and comprised of four Schools. The first appointed Rector was Professor of History, K.D. Schinas. "Semantors", *i.e.* Deans, were: Michael Apostolidis of the Faculty of Theology, Anastasios Lefkias of the Medical Faculty, Georgios Rallis of the Faculty of Law and Neophytos Vamvas of the Faculty of Philosophy. Later, in 1862, the University was renamed "National University".

In 1911, in order to fulfill a condition of the Ioannis Dombolis will, the great benefactor of the University, the "Kapodistrian University" was founded, encompassing the Faculties of Theology, Law and Philosophy. The other Faculties (Medicine and Physicomathematics), formed the "National University". These two institutions, each with a separate legal status, premises, seal and discrete role, were ran under a common administration. By the Statute of 1932 (Law 5343) the two Institutions were merged forming the "National and Kapodistrian University of Athens" under a common administration. The Constitution of June 9, 1975 (Article 16, paragraph 5), enshrined the full autonomy of the University as a Higher Educational Institution. The organization of the University was reformed by the 1268/1982 Law, and today its operation is governed by the 4009/2011 Law, as amended.

1.2. PREMISES

The University was originally housed under the Acropolis, in the private house of the architect Kleantes, which today has already been restored to its original look. The present main building (on Panepistimiou Street) was designed by the Danish architect Hansen, founded in 1839, built and landscaped in stages. This building houses the Rectory Authorities and the Administrative Services, whilst the Technical Support Services are housed in the University Campus (Panepistimioupoli Zografou), and the Administrative Directorate, the Financial Services, the Directorate of Faculty Offices and the Directorate of Endowments, are housed in the building at 6 Christou Ladas Street.

The Faculty of Theology is housed in its own building on the University Campus. The Faculty of Law and the Faculty of Economics and Political Sciences are mainly housed in the Mansion of Theoretical Sciences, on Sina, Solonos and Massalias Streets. The Faculty of Medicine is housed in its own premises at Goudi, also operating in a number of Hospitals, Clinics, etc, in various locations in Athens. The Faculty of Philosophy is housed in its own building on the University Campus. The Faculty of Natural Sciences and the Department of Pharmacy are mainly housed in their own buildings on the University Campus. Also, the Department of Physical Education and Sport Sciences is housed in the old N.A.P.E. buildings, in Daphne. The Department of Dentistry and the Department of Nursing in their own buildings in Goudi, the Department of Primary Education in 8 Hersonos Street and 57 Solonos Street, the Department of Kindergarten Education in 33 Ippokratous Street, the Department of Communication and Mass Media in 5 Stadiou Street, the Department of Theatre Studies and the Department of Music Studies in the University Campus.

1.3. UNIVERSITY CAMPUS (PANEPISTIMIOUPOLI)

In 1963, a forest area of approximately 1550 acres of land in the municipalities of Zografou and Kaisariani was ceded by the State to the University for the construction of the University Campus. Initially, the large Student House, the sports facilities, the Technical Support Services building and the Faculty of Theology were delivered.

In July 1981 the new buildings of the Departments of Biology and Geology of the Faculty of Sciences were inaugurated and put into operation. In 1988 the building of the Faculty of Philosophy was inaugurated and put into operation, and in 1989 the construction of the Departments of Chemistry and Pharmacy premises was completed.

Today, many infrastructure projects have been completed (roads, lighting, water supply, car parking, restaurant, medical centre, study rooms, kindergarten). A bus service is in operation to transport staff and students to the University's buildings. However, many projects are still pending in order to complete the University Campus constructions, according to the original plans.

1.4. ADMINISTRATION

As a Higher Educational Institution, the University is, according to the Constitution, is a public law legal entity, fully self-governed and supervised and subsidised by the State through the Ministry of Education, Research and Religious Affairs. The governing bodies of the University are the Senate, the Rector's Council, the Rector and the Vice Rectors (Law 4485/2017).

The Senate consists of: a) the Rector, b) the Vice Rectors, c) the Deans of the Faculties, d) the Presidents of the Departments, e) the student representatives (10% of the total number of the Senate members; minimum of one (1) representative from the undergraduates and one (1) in total from the postgraduates and doctoral candidates), f) three representatives, one per category from the members of the E.E.P. (Special Education Staff), E.D.I.P. (Laboratory Teaching Staff) and E.T.E.P. (Special Technical Laboratory Staff) of the Institution, and g) one (1) representative from the Administrative Officers of the Institution.

1.5. ACADEMIC UNITS AND STUDIES TITLES

Each Institution consists of Schools. A School covers a set of related disciplines and ensures an interdisciplinary approach, communication and coordination. The School supervises and coordinates the operation of the Departments, in accordance with their own Regulations.

The Schools are divided into Departments. The Department promotes science, technology or arts, in the relevant scientific field, organises teaching curricula and ensures the continuous improvement of learning.

The Departments are divided into Sections, which coordinate the teaching of discrete interdepartmental courses/fields of science.

The governing bodies: a) of the Faculty: the General Assembly, the Dean's Office and the Dean; b) of the Department: the Department Assembly, the Board of Directors and the President of the Department; c) of the Sector: the General Assembly and the Director.

In addition to the undergraduate degrees, the University also grants postgraduate and doctoral diplomas.

1.6. STAFF

The staff of the University consists of the Teaching Research Personnel (D.E.P.), the Special Education Staff (E.E.P.), the Laboratory Teaching Personnel (E.DI.P.), the Special Technical Laboratory Staff (E.T.E.P.), and the Administrative Staff. The teaching personnel consists of Professors (Professors, Associate Professors, Assistant Professors) and Lecturers. The teaching staff of the University also includes non-PhD diploma holders, who are responsible for the co-supervision of doctoral theses, as well as research assistants and foreign language teachers.

1.7. STUDENTS

The students of the University are classified into two categories, undergraduates and postgraduates. Undergraduate students are those who follow the first cycle of studies (BSc), while the postgraduates are those who follow the second cycle (MSc) and doctoral students are those who follow the third cycle of studies (PhD).

1.8. STUDENT CARE

The student status is acquired upon enrolment at a higher education institution (H.E.I.) and is withdrawn on receipt of the respective diploma.

The students are entitled to use all the facilities with which the H.E.I. is equipped for the fulfilment of the educational work, in accordance with the internal regulations and the decisions of the authorised bodies of the H.E.I..

1.8.1. SERVICES TO STUDENTS

University Club

The University Club, located in the building at 15 Ippokratous Street, offers:

Medical Care

This care is provided by the Health Service located on the first floor (office 6-10) of the building of the University Club, 15 Ippokratous Street (tel. 210-3688216 / 210-3688218 / 210-3688228).

The Health Service involves three sections: medical, dental and nursing.

All undergraduate and postgraduate students, locals, expatriates and foreigners are entitled to the health care.

In detail, health care is provided to students as follows:

- a) Ιατρική εξέταση (τηλ. 210 3688208)
- b) Hospital treatment (tel. 210 3688208, 3688218)
- c) Pathology Clinics (tel. 3688241, 3688243)
- d) Paraclinical examinations (tel. 210 3688208, 3688241, 3688243, 3688210)
- (e) Physiotherapy (tel. 210 3688208, 3688241, 3688243)
- (f) Dental care (tel. 210 3688210, 210 3688211)
- (g) Orthopaedic equipment (tel. 210 3688208, 3688241, 3688243)
- η) Psychosocial Intervention Unit (210 3688226)

If the student is directly or indirectly entitled to health care from another insurance provider, he/she chooses the provider he/she prefers, declaring his choice every academic year filling out a solemn declaration form.

The Health Service is located on the first floor of the University Club (Ippokratous 15); the telephone number of the secretariat is: 210 3688218.

For more information, *vide*: <http://lesxi.uoa.gr/foithtiki-merimna/ygeionomiki-yphresia.html>

Student Refectories

The University of Athens, is currently operating four restaurants: The restaurant at the Faculty of Philosophy, which serves students attending classes in the University Campus, the restaurant at Goudi, which serves students of Health Sciences, the restaurant in Dafni for the students of the Department of Physical Education and Sports Science, and the restaurant at 14 Lycabettus Street, for the students attending classes in the centre of Athens.

Free meals are provided to:

- a) All active students of the N.K.U.A., undergraduate, postgraduate and doctoral students, provided that they have not graduated.
- b) Students registered, as visiting students at the N.K.U.A., who come from other higher domestic education institutions or those involved in research cooperation programs, as defined in article 36, par. 2 a and b of Law 4009/2011 (A 195).
- c) Students who temporarily move from one higher education institution to another in Greece, in accordance with the Organization of the home Institution, as defined in Article 36, par. 2 e of Law 4009/2011 (A 195).
- d) Foreign scholarship holders of the Ministry of Education and Religious Affairs, who are pursuing undergraduate studies in the N.K.U.A.

For more information, *vide*: <http://www.lesxi.uoa.gr>

Foreign Languages Courses

The School of Foreign Languages of the National and Kapodistrian University of Athens is an independent and autonomous academic unit, which provides higher level foreign languages teaching.

Today, 23 languages of all levels are taught: English, Albanian, Arabian, Bulgarian, Chinese, Czech, Danish, Dutch, Finnish, French, German, Hindi, Italian, Japanese, Korean, Norwegian, Persian, Portugese, Russian, Serbian, Spanish, Swedish and Turkish

In addition, special programs are offered for anyone wishing to specialise in language translation of law or medicine terminology.

The School of Foreign Languages issues a Certificate of Attendance & Certificate of Studies to those who successfully complete the course in which they are enrolled.

Contact phone numbers : 210-3688232, 210-3688263, 210-3688265, 210-3688266, 210-3688267, 210-3688204, 210-3688270.

For more information, *vide*: <http://www.lesxi.uoa.gr>

Music Department

The Music Department is responsible for the musical education of the students and in particular the organization of courses and seminars in musicology, music history, musical instruments, art, folklor and Byzantine music, as well as the organization and operation of students choirs and orchestra.

The main aim of its operation and its participation in the university's life, was - and still is - the mixed choir and orchestra of the University of Athens with a repertoire of both classical and Greek music.

The performances of the Music Department in the University ceremonies, in concerts inside and outside the University, in Greece and abroad, attract the interest of the students and are a motivation for their participation in the Music Department, a place where, apart from practicing art, the interaction of persons is forged.

The Music Department has a large training room equipped with the necessary acoustic facilities, a classical music library, a discotheque with classical music records, a film library and various musical instruments.

The Music Department is located on the 4th floor of the University Club (Tel. 210-3688235, 210-3688229).

For more information, *vide*: <http://www.lesxi.uoa.gr>

Gymnastics and Sports

The purpose of the University's Gymnasium is to organize and operate physical exercises and sports programs for students.

The University Gymnasium and its sports facilities at the University Campus - Ano Ilisia are at the disposal of all students of the National and Kapodistrian University of Athens, in order to participate in the various programs and sports sections.

Interested in sports students can choose from a variety of sports/activities, inside and outside the facilities of the University Gymnasium, such as tennis, basketball, volleyball, football, swimming, traditional dances, chess, hiking, etc.

Apart from their recreational participation in the activities, the participating students can join the representative teams of their Department or the University and take part, during the academic year in internal, inter-university and international student championships. Special awards are given by the Rectoral Authorities, in the context of a special ceremony after the end of the academic year.

For information, please call 210-7275551, 210-7275552, 210-7275557, 210-7275576 and 210-7275560.

Care for Accommodation and Work

The Public Relations and Student Employment Department of the University Club has the following responsibilities:

- Informing the students about a variety of issues of concern, such as scholarships and awards, seminars, workshops, conferences. It also provides information on Student Housing issues (admission procedure to Student Housing - renting apartments), and, in general, informs students about the benefits of the University Club as well as for any issue concerning student life within the University of Athens.

- It receives applications from students who wish to work and facilitates them in finding a job. It also registers - codifies requests from the labour market by informing and contacting students who meet the requirements – individual criteria.

- It supervises the operation of the Cultural Club of Students of the University of Athens and undertakes, in cooperation with its sub-sections, the organization of various student cultural events.

The Department is located on the 4th floor of the University Club (Ippokratous 15). Contact telephone numbers: 210-3688227, 210-3688251, 210-3688254

For more information, *vide*: <http://www.lesxi.uoa.gr>

Liaison Office

The Liaison Office is the link between the University and industry, providing services to students and graduates of the University of Athens. The main objective of the Liaison Office is to inform new graduates about the jobs available per field, and to facilitate and support them in their professional orientation. The aim of the Liaison Office, through its career guidance services, is to support students-graduates in developing and continuously adapting their skills, in conjunction with the new and ever-increasing demands.

More specifically, the Liaison Office provides the following services :

1. Provision of advisory, career guidance, information and guidance services to students and graduates of the University of Athens, in order to facilitate their choices of the most suitable professional and educational directions. Assistance and advisory support to students and graduates, both during the job search process and during the application process for postgraduate studies (drafting of CVs, letters of recommendation, preparation for personnel selection interviews, etc) through personal and group meetings, concerning the development of skills.

2. Development and enrichment of the existing website (<http://career-office.uoa.gr>) for students, alumni, businesses, and issues of academic interest.

3. Monitoring the labour market in a systematic way, recording vacancies/new jobs, informing students/graduates about the required job qualifications. Also, at regular intervals, organizes Career Days with the participation of major Greek and international companies.

4. Conducting surveys regarding the situation in the labour market and the jobs available in the market, for graduates. Occupational description guides and vocational guidance. Informing the departments of the University and the Senate on these issues.

5. Publicity and dissemination of the results of the University of Athens Liaison Office. The Liaison Office participates in exhibitions, organizes workshops and publishes brochures and posters promoting its work. It invites speakers and cooperates/organises joint events with industries.

6. Supports the Youth Entrepreneurship Programme, which aims at developing the entrepreneurial spirit.

7. Developing links with the secondary education schools, the Counselling and Guidance Centres (CGCs) and the School Counselling and Guidance Offices (SCGOs).

8. International Careers/Liaison Unit: the International Careers Unit in the Regional Liaison Office of the Department of Political Sciences It aims at the timely and systematic collection of all job advertisements, and vacancies in European and international organisations, non-governmental organisations, international missions and activities, research centres and other related needs, either permanent or short-term. It also seeks to create a global network of Greek executives who serve or have served in international organizations and missions.

Contact details:

Central Liaison Office

Postal address: Department of Information Technology and Telecommunications
Office A22,

University Campus (Panepistimiopolis) – Ilisia Athens , 157 84

Telephone: 210-7275220, 210-7275190

fax: 210 -275214

E-mail: [gd\(at\)di.uoa.gr](mailto:gd(at)di.uoa.gr)

Regional Liaison Office at the Department of Political Sciences and Public Administration

Postal address: Themistokleous 6, Athens 10678

Telephone: 210-3688947

E-mail: [imeleas\(at\)pspa.uoa.gr](mailto:imeleas(at)pspa.uoa.gr)

Students' Halls of Residence

The University of Athens operates the Students' **Halls of Residence** (F.E.P.A.), which consists of 4 buildings, dormitories A, B, C and D, located in the University campus. The old F.E.P.A. was also located there.

Only students of the National and Kapodistrian University of Athens, and students of other universities and TEI, whose brothers and sisters already reside in the dormitory, are admitted to the halls of residence.

The admission criteria are social and are described in the Operating Regulations, which also contain all the accommodation rules.

A restaurant operates for the hostellers in building A. In the same building there are medical clinics that serve both the hostellers and the staff of the University's Departments on campus. There is also a computer room.

For more information, students can contact the F.E.P.A. Secretariat.

The telephone number of the Student Accommodation Secretariat is: **210-7258723**

Website: <http://fepa.uoa.gr>

The Student Cultural Club (P.O.F.P.A.)

For the entertainment and promotion of the students' artistic inclinations, the Students' Cultural Club has been created, providing access to Theatrical, Dancing, and Film/Photography facilities.

The Students' Cultural Club aims to support and promote the artistic activities of the students of the N.K.U.A. It is a "place" of collective expression and creation. Students are brought into contact with works of art and encouraged to create their own artistic works.

The Student Cultural Club includes (4) four areas: a) Theatre, b) Dance, c) Film and Photography Sectors.

In order to become a member of the P.O.F.P.A., a student just needs to apply in writing to the office of the area of interest (the Drama, Photography and Film are located on the Mezzanine, while Dance is located in the First Basement of the University Club).

Contact phone numbers: 210-3688205, 210-3688275, 210-3688276.

The Student Cultural Club of the University of Athens is ran by a Coordinating Committee, elected by all the members of the Students' Cultural Club.

The Students' Cultural Club in cooperation with the Department of Public Relations organizes various cultural events and all students who wish to participate in them may do so.

Student Study Rooms

The student study rooms are located in the building of the University Club (15 Ippokratous Street).

There are two (2) Study Rooms in the premises of the Student Club (15 Ippokratous Street, one on the 2nd floor, with 250 seats, and one on the 4th floor of the same building with 120 seats and 4 computers available to students).

The study rooms are open every day, except on Saturdays and Sundays, from 8 am to 9 pm; a study room is also open in the University Campus (8 am to 9 pm).

In the Study Rooms, the students can use their own books or books from the library, which can borrow by showing their student or police ID card and by filling out a library loan form (internal borrowing).

If the student has not yet been provided with a student ID card (newly enrolled students), the books can be borrowed by providing another ID card, along with their police ID.

Books are not borrowed outside the Student Study Rooms.

Contact phone numbers: 210-3688219 (2nd floor), 210-3688231 (4th floor).

LIBRARY OF SCHOOL OF SCIENCES

LOCATION

The Library of the Faculty of Science is housed in a building between the Departments of Physics and Mathematics, where the main entrance of the Library is located. There is a second Library entrance *via* the corridor on the 3rd floor of the Department of Mathematics.

CONTACT

Information: ☎ 210 727 6599, Secretariat: ☎ 210 727 6525, fax: 210 727 6524
Website: <http://sci.lib.uoa.gr/>, E-mail: sci@lib.uoa.gr



OPERATING HOURS

The Library of the Faculty of Sciences is open:

Monday to Friday 08:30 - 19:00 and Saturday 09:00 - 14:00

The Library is closed during the public holidays, as determined by the Rectoral Council. During holidays (Christmas, Easter, summer) the opening hours are adjusted accordingly.

The **Secretariat** and the **Interlibrary Loan Office** are open **Monday to Friday from 09:00 to 15:00**.

COLLECTION

The Collection includes books, scientific journals (printed and electronic), postgraduate dissertations, doctoral theses, maps and other material in the following subject categories: Biology, Geology and Geoenvironment, Mathematics, Computer Science and Telecommunications, Pharmacy, Physics and Chemistry.

LIBRARY SERVICES

PERSONAL STUDY ROOMS/GROUP STUDY ROOMS

The Library has five personal study rooms (3rd and 4th floor) and four group study rooms for six people (3rd and 4th floor).

ACCESS TO JOURNALS

The Library has a room on the 3rd floor, where the latest issues of current journals' volumes(those that are available in print and for which subscriptions are still valid) are on display.

COMPUTER WORKSTATIONS (PCs)

In the Library of the Faculty of Sciences (3rd and 4th floor) there are special areas with computer workstations accessing the material of the University of Athens Libraries in the Open Public Access Catalogue (OPAC: Open Public Access Catalogue) (<http://www.lib.uoa.gr/yphresies/opac/>).

All users of the Library have the possibility to search and access the full text of articles of the scientific journals of the Consortium of Hellenic Academic Libraries (HEAL-LINK) on the website, www.heal-link.gr, which supports more than 9,000 journal titles, the electronic subscriptions of scientific journals of the University of Athens, which supports more than 1,000 journal titles, as well as bibliographic databases and other services through the website of the University of Athens Libraries (<http://www.lib.uoa.gr>).

Computers are also available in a reading room on the 3rd floor of the Library, which all members with a lending card are entitled to use.

In addition, users can also use their personal laptops, with wireless connection in the reading rooms and wired connection in the group study rooms.



LENDING LIBRARY

The right to borrow is granted to: a) Members of the Teaching, Research, Administrative and other staff of the University of Athens and b) undergraduate and postgraduate students of the Faculty of Sciences of the University of Athens.

The following are required for the issue of the loan card:

- Police Identity card,
- ID card of the university community (University of Athens ID card, student ID card),
- one (1) photograph
- application form

The application can be submitted to the Secretariat (Monday to Friday 08.30 - 15.00) and at the Service Office on the 3rd floor (daily 15.00 - 19.00 and Saturday 09.00 - 14.00).

The file containing the above data is subjected to the Personal Data Protection Act.

For the categories of users who cannot borrow the material, access to the Library is permitted upon presentation of their police identity card, which is returned prior to their departure from the premises. The lending card is non-transferable and can only be used by its holder.

Users of each category are entitled to **renew** their request to borrow material up to two times. At the end of the last renewal and after 15 calendar days, the user may borrow the same item once again. The Library reserves the right to **recall** borrowed material in cases of increased demand. Any user who needs material that is already on loan has the right to **reserve it**. The maximum number for reserving material per user is two (2) items. If not requested within three working days, the right to reserve is lost. For material that has been reserved by more than one user, the borrowing period is reduced in order to better serve all applicants.

The detailed User Regulation is available at: <http://sci.lib.uoa.gr/>.

INTERLIBRARY LOANS

The Interlibrary Loan Office is responsible for spotting books and journal articles in other libraries, which are necessary for the user's study and research and which are not in the Library's collections.

WORKSTATION FOR PERSONS WITH DISABILITIES (PWDs)

On the 3rd floor of the Library, in a specially designed area, there are workstations for people with special skills. There are three workstations covering people with blindness, impaired vision, mobility disabilities and deafness. The workstations are equipped with special devices and software to facilitate access to the computers, the Internet and the Library's collections for all people with disabilities, especially for those who have problems handling printed material (print disability). They can also be used in the context of the writing of assignments by students with disabilities (SWSSs) or in the collaboration between SWSSs and fellow student volunteers, who support their studies.



TRAINING OF USERS

Every Monday, from 10:00-12:00 a guided tour to the Library and its services is provided. Those interested can register by filling in their name on the special forms (information at the Service Desk on the 3rd floor).

Accessibility Unit for Students with Disabilities

The mission of the Accessibility Unit for Students with Special Skills (SWSSs) is to ensure equal access to the academic activities to students with special skills and needs. The actions that have been taken are Adaptations to the Environment, Assistive Information Technologies and Access Services. The aim is to meet the basic needs and requirements of the SWSSs, such as: interpersonal communication with members of the academic community, writing assignments, access to university buildings, educational materials, classroom blackboard and projections, examinations and web-offered options.

The SWSSs Accessibility Unit includes::

- SWSSs Needs Registration Service.
- Electronic Accessibility.
- Accessibility in the Buildings.
- Transport Service.

The activities of the Unit include the systematic recording of the needs of all students with disabilities. The registration and services of the Unit are not only for students admitted under special terms (3%), but also for those admitted with regular or special examinations, as well as for those, who were faced with a disability during their studies.

The Unit provides assessment of competences of SWSS persons, using scientific-based methodologies, and depending on the specific needs of the student, proposes specialised *Assistive Technology* solutions. Moreover, the Unit provides assistance in the procurement of appropriate equipment and software and technical support, where/when needed.

The Accessibility Unit provides expertise, guidance and tools for *Internet Accessibility* and monitors the accessibility to the University's websites to ensure that they comply with international guidelines. In addition, the libraries of the N.K.U.A. are equipped with workstations and specialised facilities for blind students, with impaired vision and those with upper limb disabilities.

The main service of the Accessibility unit is the daily transport of the SWSSs from their residence to the university's auditoriums and back. The unit is equipped with a specially designed vehicle that can transport five SWSSs, at a time, two of whom are wheelchairs or wheelchair-bound. The service operates continuously on weekdays from 07:00 to 22:00 with two shifts of drivers.

In the field of *Environmental Adaptations*, accessibility route are available in the new buildings under construction at the University of Athens and modifications are made to the existing buildings (installation of ramps, lifts, handrails, accessible toilets, special signage for people with visual impairment, low wall-mounted payphones and water coolers, parking spaces for disabled people). Finally, audible signage is installed at traffic lights and special navigation paths on the pavements around the buildings of the University of Athens for people with visual impairment.

Information and dissemination activities are organised and information leaflets have been published and are available in the secretariats of all departments of the University of Athens.

Contact

Telephone: 210-7275183

E-mail: [access\[at\]uoa\[dot\]gr](mailto:access[at]uoa[dot]gr)
[website](#)

1.8.2. SCHOLARSHIPS - AWARDS

The University of Athens grants, on an annual basis, scholarships for undergraduate and postgraduate studies, at home or abroad, as well as awards to

students, authors of scientific papers, etc. Scholarships and prizes are awarded, according to the will terms of the testator of each endowment, subjected to certain conditions (competition or sometimes by selection). The number of scholarship holders is not fixed or the same every year because it depends on the income of each endowment.

Here is a table of the endowment scholarships and awards that are also applicable to students of the Department of Pharmacy. More information can be obtained from the University of Athens Endowments Office (Christou Ladas 6, 6th floor).

Scholarships

- 1. Delliou or Nakidou:** Scholarships are awarded for excellent performance of two young scientists, in any science, other than Medicine, in Europe with preference given to those from Eastern Macedonia.
- 2. Theod. Manousi:** All students from Siatista, who attend any higher education institution in the country, are eligible for scholarships; a selection is made.
- 3. Sp. Baltatzi:** Scholarships are selectively awarded to students coming from the Syrrakos village in Ioannina (Primary, Secondary, Upper and Higher Education candidates are eligible).
- 4. Ant. Papadaki:** Scholarships are given to students of the University of Athens, on a competitive basis.
- 5. Ioannou Alevizatou-Kontou:** Scholarships are awarded to all graduates from all the Schools and Departments of N.K.U.A., for pursuing postgraduate studies in Greece and abroad.
- 6. Ioannou and Marigos Papadaki:** Scholarships are awarded on a competitive basis, to graduates of all Schools and Departments of the N.K.U.A., for postgraduate studies in Greece or abroad, coming from the island of Kassos in the Dodecanese.
- 7. Topouzoglou Aristotelous:** Scholarships are awarded, on a competitive basis, to graduates from the N.K.U.A., Greek or from the Hellenic community of Turkey, for postgraduate studies abroad, with preference given to the ones in need.
- 8. Konstantinou Kriezi:** Scholarships are awarded on a competitive basis, for postgraduate studies abroad, for a period of three years, to the best doctoral students and/or graduates of the Faculty of Medicine, the Faculty of Dentistry and the Faculty of Law, Economics and Political Sciences, from all Greek Universities, and in the case where none is qualified, from all other Greek Faculties of all other Universities of Applied Sciences, who come from the Islands of Hydra and Spetses and speak English or French, preferring in case of a tie those who carry by blood the surname "Kriezis" from Hydra. In case there are no candidates from the islands of Hydra and Spetses, applicants from other regions of Greece are eligible (prerequisite: age up to 27 years old).
- 9. Marias Stai:** Scholarships are awarded to Kytherian graduates of all Schools and Departments of the Higher Education Institutions (University Sector), except the Military Schools, for postgraduate studies in Greece or abroad.

Awards

- 1. P. Mari-Kamara:** Award to the best students of all the Schools and Departments of the University.
- 2. Pantia Ralli:** Award to the best students of all the Schools and Departments of the University.
- 3. E.-F. Tsampoula:** Award of a prize to a student, with satisfactory performance in courses offered by, the Faculty of Medicine, preferably, otherwise of the Department of Dentistry, otherwise of any other relevant Faculty or Department, either from Megalo Chorio Evritania, or from Karpenisi, or from the villages: Mikro Chorio, Voutiro, Aniada, Nostimo, Karitsa, Dermati.

- 4. Aspasia Papadaki-Valiraki:** Awarded annually to one outstanding graduate of the Department of Pharmacy.
- 5. Evangelou Kostaki:** Awarded annually to one outstanding graduate of the Department of Pharmacy.

2. DEPARTMENT OF PHARMACY

2.1. Historical background

Pharmacy is one of the first sciences taught in the University of Athens.

On May 18, 1835, a Royal Decree was signed for the establishment in Athens of a "Theoretical and Practical Teaching House of Surgery, Medicine and Pharmacopoeia", a year prior to the Decree of 1836, which established "The University of Athens".

On July 15, 1838, a "Chair of Pharmacology" was established in the Medical School, providing the diploma in Pharmacy.

In 1843 the 'Pharmaceutical School' was founded, which was directed by the Dean of the Medical School

In 1905 the School of Pharmacy was detached from the Faculty of Medicine and attached to the Faculty of Physics and Mathematics.

It rejoins the Medical School in 1911 and in 1922 returns as the "Pharmacy School" in the Faculty of Physics and Mathematics.

In 1982 it was attached as the "Department of Pharmacy" to the Faculty of Health Sciences. Since 1990 and until 2013, with the decision of the S.T.E. No. 32/90, which annulled Decree 410/87 on the establishment of the Faculty of Health Sciences, the Department of Pharmacy has been independent.

Following the Decree 85/2013 (Government Gazette 124/A/3-6-2013), the Department of Pharmacy was incorporated into the Faculty of Health Sciences of the N.K.U.A..

The teaching of Pharmacy started in the Royal Pharmacy building, at the corner of Akademias and Vas. Sofias streets, while the first official Laboratory of Pharmaceutical Chemistry was established in 1837, which was located in the basement of the University's building, and in 1866 it was moved to rooms on the ground floor.

In 1869, the so-called "Pharmaceutical School" was founded, which was located in the three north-eastern basements of the University's building.

In 1870 the first Chemistry Department was built in the courtyard of the Papadopoulou House at the corner of Akademias and Massalias Streets and in 1928 it was moved to Solonos Street. This building, which was built in 1890, was destroyed by fire in 1910 and reopened in 1913.

Since 1992 the Department of Pharmacy has been housed in the building complex of the Faculty of Sciences on the University Campus.

The first Chair of Pharmacy was Pharmaceutical Chemistry, and in 1932 the Chair of Pharmacognosy was established. The Chair of Pharmaceutical Technology was established much later, in 1979.

By the Law 1268/1982, these chairs were renamed Sectors.

2.2. Premises of the Department of Pharmacy

The Department of Pharmacy is housed in the Sciences building complex on Campus. The Departments of Biology, Geology, Chemistry are co-located in the same complex. The premises of the Department of Pharmacy occupy the north-eastern part of the complex. The building facilities of the Campus and a brief architectural plan of the premises of the Department of Pharmacy are shown on the following pages.

The Department has access to the other Departments in the complex, *via* a grid of corridors.

The Secretariat of the Department is located in the same building complex.

The teaching and the examinations of the courses taught in the Department of Pharmacy are held in the following locations:

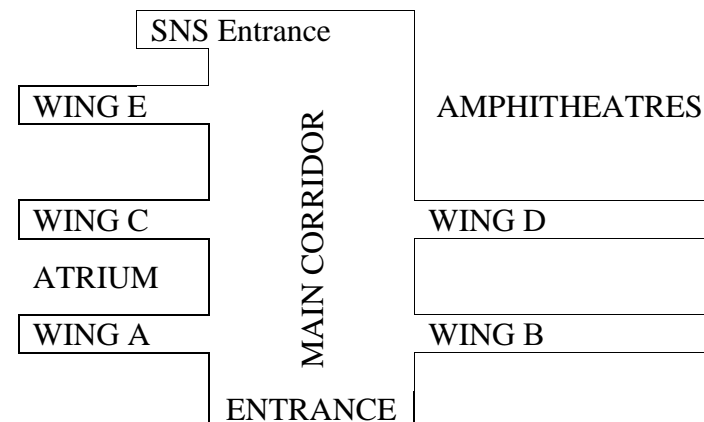
-Lecture halls FM2 and FM1.

-Teaching rooms D (D1, D7, D8), Pharmaceutical Technology Room (AFT),
Pharmaceutical Chemistry Room (AFX)

The exact locations of the Department's Sectors are shown in the Table below.

**NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS
DEPARTMENT OF PHARMACY**

GROUND FLOOR	
WING A	WING B
<ul style="list-style-type: none"> - Farmacognosy Sector Laboratories - Pharmaceutical Technology Sector Laboratory Animals 	<ul style="list-style-type: none"> - Pharmaceutical Technology Sector <i>guinea pigs</i> Laboratory



1st FLOOR PHARMACOGNOSY AND NATURAL PRODUCTS CHEMISTRY SECTOR			
WING A	WING B	WING D	MAIN CORRIDOR
<ul style="list-style-type: none"> - Sector's Staff Offices - Sector's Laboratories 	<ul style="list-style-type: none"> - Sector's Staff Offices - Sector's Laboratories 	<ul style="list-style-type: none"> - Sector's Conference Room - Sector's Laboratories 	<ul style="list-style-type: none"> - Sector's Secretariat - Sector's Staff Offices - Sector's Staff Offices - Auditoriums

ATRIUM
<ul style="list-style-type: none"> - Telecommand room - Pharmaceutical Technology Sector's Laboratories

2nd FLOOR PHARMACEUTICAL TECHNOLOGY SECTOR			
WING A	WING B	WING C	WING D
<ul style="list-style-type: none"> - Sector's Secretariat - Sector's Staff Offices 	<ul style="list-style-type: none"> - Sector's Laboratories 	<ul style="list-style-type: none"> - Pharmaceutical Technology Laboratories - Pharmaceutical Chemistry and Pharmaceutical Technology Auditoriums 	<ul style="list-style-type: none"> - Computer Room - Auditoriums D - Postgraduate Auditoriums

SNS ENTRANCE
<ul style="list-style-type: none"> - Departmental Secretariat

		- Pharmaceutical Chemistry Conference Room	
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3rd FLOOR			
PHARMACEUTICAL CHEMISTRY SECTOR			
WING C	WING D	WING E	CENTRAL CORRIDOR
- Sector's Staff Offices - Sector's Laboratories	-Sector's Staff Offices - Sector's Laboratories	- Sector's Staff Offices	- Sector's Staff Offices - Sector's Secretariat

Access *via* bus to the University's Campus:

220 ANO ILISIA - AKADIMIA (CIRCLE LINE)

221 PANEPISTIMIOPOLIS - AKADIMIA (CIRCLE LINE)

235 ZOGRAFOU - AKADIMIA (CIRCLE LINE)

224 KAISARIANI – EL. VENIZELOU (POLYGONO)

250 PANEPISTIMIOPOLIS - EVANGELISMOS (CIRCLE LINE)

E90 PIRAEUS – PANEPISTIMIOPOLIS (EXPRESS LINE)

140 POLYGONO – GLYFADA (Bus stop «Students' Dormitories», Olof Palme street)

608 GALATSI - ZOGRAFOU

Bus time schedules and boarding/disembarking points on Campus are listed in the <http://www.oasa.gr> website.

3. POSTGRADUATE STUDIES IN THE DEPARTMENT OF PHARMACY

The Department of Pharmacy offers Postgraduate Studies Programmes, which lead to the award of a Master's Degree (M.Sc.) or a Doctoral Degree (PhD).

3.1. ORGANISATION AND OPERATION OF POSTGRADUATE PROGRAMMES

The Department of Pharmacy of the University of Athens has been organizing and operating, since the academic year 1993-1994, Postgraduate Studies Programmes (M.Sc.) in accordance with the provisions of articles 10 to 13 of the 2083/1992 Law, and the General Assembly's of Special Composition resolution of 12-5-1993.

The objectives of the postgraduate studies are the promotion of scientific knowledge and the educational, research and development contribution to the needs of the country in the field of the Pharmaceutical Sciences. In particular, postgraduate studies aim to offer specialisation to young scientists both in the broader area of the Pharmaceutical Sciences and in congeneric disciplines, with the aim of delivering scientists capable of contributing to the educational and economic development of our country. In addition, the postgraduate studies leading to the award of the Doctoral Degree aim at the emergence of scientists with a wide range of knowledge and research ability, who will contribute to the further development of Pharmaceutical Sciences and their applications covering more than one specialization.

In order to achieve the above objectives, the Department of Pharmacy seeks the cooperation with the Departments of the Faculty of Health Sciences and with other Departments of the University of Athens or other universities of higher education in Greece or recognised institutions abroad, as well as the connection of the Postgraduate Studies Programme with the Pharmaceutical Industry in Greece and abroad.

The Department of Pharmacy organizes six Postgraduate Programmes and awards the following Postgraduate Diplomas:

- 1. Drug Design and Development**
 - a. Direction: Medicinal Chemistry**
 - b. Direction: Pharmacology**
 - c. Direction: Radiopharmaceutical Chemistry**
- 2. Pharmaceutical Analysis - Quality Control**
- 3. Pharmacognosy and Chemistry of Natural Products**
- 4. Industrial Pharmacy**
- 5. Clinical Pharmacy**
- 6. Cosmetics-Skin Pharmacology**

In addition, the Department of Pharmacy awards a Doctorate Diploma in Pharmaceutical Sciences.

3.2. POSTGRADUATE PROGRAMME “DRUG DESIGN AND DEVELOPMENT”

3.2.1. COORDINATION COMMITTEE OF THE POSTGRADUATE PROGRAMME “DRUG DESIGN AND DEVELOPMENT”

(Resolution of the Departmental Assembly 16/03/2023)

- Director of the M.Sc. Programme: Tsotinis Andrew, Professor
- Marakos Panagiotis, Professor
- Kourounakis Angeliki, Professor
- Pouli Nicole, Professor
- Andreadou Ioanna, Professor
- Kolokouris Antonios, Professor

3.2.2. OBJECT - PURPOSE AND EXPECTED LEARNING OUTCOMES OF THE PROGRAMME “DRUG DESIGN AND DEVELOPMENT”

A. OBJECT - PURPOSE

The aim of the M.Sc. Programme “Drug Design and Development” is to provide high quality postgraduate education in the scientific fields of Medicinal Chemistry, Pharmacology and Radiopharmaceutical Chemistry. The programme aims at the advancement of scientific knowledge and the application of new knowledge and technology in the field of Pharmaceutical Science. Furthermore, it aims at the specialization of young scientists and the creation of executives capable of dealing with problems of transfer and assimilation of new high-tech processes and to contribute to the economic and social development of the country. It is part of the efforts to modernise and upgrade the level of Postgraduate Studies provided by the Department of Pharmacy of the School of Health Sciences of the N.K.U.A.. to a level competitive with international standards.

The MSc leads to the award of the Diploma of Postgraduate Studies “Drug Design and Development”, after the full and successful completion of the studies based on the curriculum, in the following directions:

1. Medicinal Chemistry
2. Pharmacology
3. Radiopharmaceutical Chemistry

The degrees are awarded by the Department of Pharmacy, School of Health Sciences, National and Kapodistrian University of Athens.

B. EXPECTED LEARNING OUTCOMES

Graduates of the M.Sc. Programme “Drug Design and Development” upon successful completion of the programme, will be able to:

1. Have in-depth knowledge on:

- i. The modern methods of design of active drug substances, their preparation and structure identification by modern spectroscopic methods, as well as the targets of drug action at the molecular level.
- ii. In the field of radiopharmaceuticals, their synthesis methods.
- iii. Modern analytical methods, as well as approaches in the field of Pharmaceutical Analysis.
- iv. The statistical analysis and evaluation of scientific data.
- v. The mechanisms of drug action at the cellular and clinical level, the design of clinical studies and the evaluation of new drugs.

- vi. The experimental systems of *in vitro* and *in vivo* pharmacological studies.
- vii. The modern methods of literature search.

2. Necessary skills for the workplaces:

- i. The modern methods and procedures of pilot and industrial production of active pharmaceutical compounds and finished products.
- ii. The analytical techniques required at the stages of quality control and quality assurance.
- iii. The statistical analysis and evaluation of scientific data.
- iv. The requirements for writing scientific articles and processes related to the fields covered by the M.Sc. Programme.
- v. The principles and methods of critical thinking.
- vi. The business practices.
- vii. The principles of effective communication and team spirit.

3.2.3. MSc PROGRAMME: STRUCTURE AND AUTHORIZED COORDINATION BOARDS

The authorities responsible for the operation of the M.Sc. Programme according to 4957/2022 Law are:

A. At the level of the Institution, the relevant authorities are:

A1. The Postgraduate Studies Committee

A2. The Senate

B. At the level of the Institution, the authorities are:

B1. The Assembly of the Department

B2. The Coordinating Committee (C.C.)

B.3 The Director of the M.Sc. Programme

Γ. M.Sc. Programme secretarial support

- a) The Secretariat of the Department of Pharmacy is responsible for the secretarial and administrative support of the M.Sc. Programme.
- b) The Secretary of the Department shall appoint an employee or employees - depending on the number of M.Sc. Programmes and the workload – personnel responsible for the Postgraduate Programmes of the Department. The secretarial support of the MSc is assisted by the Programme’s Secretariat, which is located in the Department of Pharmacy, under the supervision of the Department’s Secretariat, which is staffed by the administrative employees of the Department.
- c) The persons responsible for the M.Sc. Programme may suggest the recruitment, in accordance with the legislation in force, of external collaborators for secretarial and administrative support, who will also be under the supervision of the Department's Secretariat.

3.2.4. CATEGORIES AND NUMBER OF ADMISSIONS

The M.Sc. Programme “Drug Design and Development” admits holders of the first cycle of studies degrees from the Departments of Pharmacy, Medicine, Chemistry, Chemical Engineering, Biology, Higher Education Institutions (HEI) in Greece or similar Institutions accredited by the DOATAP, as well as graduates of other Departments of HEI in Greece or similar foreign, recognized Institutions.

The maximum number of students admitted to the Postgraduate Studies Programme is thirty-five (35) in total. The maximum number of admissions is determined according to the number of faculty members of the M.Sc. Programme and

the student/faculty ratio, the infrastructure, the number of classrooms, and the absorption of graduates by the labour market.

In addition to the number of admissions, one (1) member of the categories of E.E.P., E.D.I.P. and E.T.E.P. is admitted per year, provided that the work carried out in the Foundation is relevant to the subject of the M.Sc. Programme.

Scholarship holders of the IKY foundation, foreigners, scholarship holders, of the Greek state, of the same subject as the one of the M.Sc. Programme, are admitted to the M.Sc. Programme provided that the selection criteria mentioned in the Internal Regulations of the M.Sc. “Drug Design and Development” are fulfilled.

The maximum number of postgraduate students admitted to the Pharmacy M.Sc. Programmes is approximately ninety (90) per year. It is noted that the number of undergraduate students is approximately one hundred and ninety (190) per year and the number of faculty members in the N.K.U.A Department of Pharmacy is forty-two (42).

The above figures are approximate and correspond to those recorded for the year in which this Study Guide was written.

The selection of students is made in accordance with the current legislation and the provisions of the Internal Regulations of the M.Sc. Programme “Drug Design and Development”. The annual call for applications to participate in the M.Sc. Programme is posted on the website of the Department (June-July), according to the Department of Pharmacy General Assembly’s relevant resolution.

The selection procedure is described in the attached Internal Regulations of the M.Sc. Programme.

3.2.5 STUDIES DURATION

The student status is acquired upon enrolment in the M.Sc. Programme “Drug Design and Development” of the Department of Pharmacy, N.K.U.A..

The duration of the M.Sc. Programme studies, which leads to the award of the Master’s Degree (M.Sc.), is four (4) academic semesters, including the time for the preparation of the dissertation.

In special cases, an extension is possible, following a reasoned request by the student and approval by the General Assembly of the Department of Pharmacy or the Committee, responsible for the Programme Studies. The extension should not exceed two (2) additional academic semesters, provided that the postgraduate student has made a written request to the General Assembly of the Department of Pharmacy, at least two months, prior to the end of the 3rd semester, stating the reasons for the extension request. Thus, the maximum time allowed for completion of the studies is six (6) academic semesters.

Students who have not exceeded the maximum period of study, after a reasoned request to the General Assembly of the Department of Pharmacy, 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, absence abroad, etc.). Attending another postgraduate or other educational programme does not constitute a serious reason for granting a suspension.

The application must be reasoned and accompanied by all relevant documents from the competent public authorities or bodies proving the reasons for the suspension of studies.

The student status is suspended during the period of suspension and participation in any educational process is not permitted. The semesters of student suspension do not count towards the maximum period of the regular study.

At least two weeks before the end of the suspension period, the student must re-enroll in the program to continue his/her studies with the rights and obligations of an active student. Students may, upon request, terminate their suspension and return to the

Programme only if they have applied for a suspension for two consecutive academic semesters. The request to discontinue the suspension must be submitted no later than two weeks before the beginning of the second semester of the suspension.

The duration of the suspension or extension of the period of study is discussed and approved on a case-by-case basis by the relevant Board, which makes a recommendation to the General Assembly of the Department of Pharmacy.

3.2.6. CURRICULUM

The M.Sc. Programme begins in the winter semester of each academic year.

A total of one hundred and twenty (120) credit hours (ECTS) are required for the award of the degree. All courses are taught weekly and, where applicable, include laboratory exercises, practical training, seminars.

The teaching language is Greek. In the case that a foreign lecturer is invited to give lectures/seminars, in the context of a course, the lecture will be given in English.

During their studies, the postgraduate students are required to attend and successfully complete all the requisite postgraduate courses, to engage in research and write scientific papers, as well as to prepare an MSc dissertation. The language of the postgraduate dissertation is Greek. In exceptional cases, the English language is acceptable, if there are special reasons, provided that both the supervisor and the General Assembly of the Department of Pharmacy, are in agreement.

Courses are taught in person or at a distance, in accordance with the legislation in force and as defined in Article 7 of the Internal Regulations of the M.Sc. Programme

The courses modules per direction for the academic year 2022-2023 are as follows:

3.2.6.a DRUG DESIGN AND DEVELOPMENT – MODULE «PHARMACEUTICAL CHEMISTRY»

1st Semester	Teaching hours/week	ECTS
Advanced Pharmaceutical Chemistry I	2	6
Biochemical and Molecular Pharmacology	2	6
The Retrosynthetic Approach in the Synthesis of Drug Molecules	2	6
Advanced Organic Chemistry I	2	6
Spectroscopic Methods I	2	6
Total	10	30
2nd Semester	Teaching hours/week	ECTS
Advanced Pharmaceutical Chemistry II	2	6
Advanced Organic Chemistry II	2	6
Advanced Pharmacology	2	6
Spectroscopic Methods II	1	3
Literature Survey Methods	1	3
Legislation-Regulatory Affairs	1	3
Seminars	2 ^a	3
Total	11	30
3rd Semester	Teaching hours/week	ECTS
MSc Dissertation Implementation	-	30 ^b
Total		30

4th Semester	Teaching hours/week	ECTS
MSc Dissertation Implementation	-	30 ^b
Total		30

^aThe total number of seminars includes twenty four (24) teaching hours.

^bThe number of 30 ECTS/semester, accredited to the MSc Dissertation, is justified by the fact that its implementation is time consuming and laborious, as more than 900 hours/semester are required.

^cIn the total ECTS number, required to obtain the MSc diploma, the seminars are not included, as they are not marked.

6.8.b DRUG DESIGN AND DEVELOPMENT – MODULE «PHARMACOLOGY»

1st Semester	Teaching hours/week	ECTS
Biochemical and Molecular Pharmacology	2	6
Experimental Systems for <i>in vitro</i> and <i>in vivo</i> Pharmacological Studies	2	6
Clinical Pharmacology/ Pathophysiology	4	8
Statistical Methods and their applications in Pharmaceutical Sciences	2	4
Clinical Pharmaceutical Analysis	2	6
Total	12	30
2nd Semester	Teaching hours/week	ECTS
Advanced Pharmacology	2	6
Advanced Pharmaceutical Chemistry II	2	6
Literature Survey Methods	1	3
Legislation-Regulatory Affairs	1	3
Pharmaceutical Industry or Hospital Practice	6 ^a	10
Seminars	2 ^b	2
Total	14	30
3rd Semester	Teaching hours/week	ECTS
MSc Dissertation Implementation	-	30 ^b
Total		30
4th Semester	Teaching hours/week	ECTS
MSc Dissertation Implementation	-	30 ^b
Total		30

^aThe six (6) hours of practice per week correspond to the mean value of hours/week, calculated for the entire period of thirteen (13) weeks. The internship in the Pharmaceutical Industry takes place during two (2) consecutive weeks; an eight hours daily attendance is required.

^bThe total number of teaching hours, with respect to the seminars, is twenty (20).

^cThe number of 30 ECTS/semester, accredited to the MSc Dissertation, is justified by the fact that its implementation is time consuming and laborious, as more than 900 hours/semester are required.

^dIn the total ECTS number, required to obtain the MSc diploma, the seminars and the practice in the Pharmaceutical Industry or Hospital are not included, as they are not marked.

6.8.d DRUG DESIGN AND DEVELOPMENT– MODULE « RADIOPHARMACEUTICAL CHEMISTRY»

1 st Semester	Teaching hours/week	ECTS
Advanced Pharmaceutical Chemistry I	2	6
Biochemical and Molecular Pharmacology	2	6
The Retrosynthetic Approach in the Synthesis of Drug Molecules	2	6
Advanced Organic Chemistry I	2	6
Spectroscopic Methods I	2	6
Total	10	30
2 nd Semester	Teaching hours/week	ECTS
Advanced Pharmaceutical Chemistry II	2	5
Advanced Radiopharmaceutical Chemistry	3	10
Synthesis and Radiopharmaceutical Agents Production	3	10
Drugs' Quality Control	2	5
Total	10	30
3 rd Semester		
MSc Dissertation Implementation	-	30 ^a
Total		30
4 th Semester	Teaching hours/week	ECTS
MSc Dissertation Implementation (cont.)	-	30 ^a
Total		30

^aThe number of 30 ECTS/semester, accredited to the MSc Dissertation, is justified by the fact that its implementation is time consuming and laborious, as more than 900 hours/semester are required.

3.2.7 POSTGRADUATE COURSES CURRICULA

First Semester

Advanced Pharmaceutical Chemistry I

This course refers to the rational drug design of compounds of biological interest. The approach is through the development of classical and modern methodologies in Drug Design, based on the following topics:

- Drug Discovery-Development, prerequisites, basic stages. Historical background, (Compound Guide, Drug Carriers, Receptors, Targeting, Characteristic structures).
- Pharmacological Targets. Basic targets: GPCRs, Ion-channels, nuclear receptors, enzyme coupled receptors), statistics. Validation, (target validation, druggability, ligandability).
- Elements of biotechnological methods. Genetic engineering, PCR, recombinant proteins, transgenic animals. Gene silencing (antisense, siRNA), Gene editing, Transcriptomics, Proteomics, Gene therapy.
- Protein-small molecules interaction. Thermodynamic characteristics of host-

guest interactions, quantification of biological activity. Receptor agonists-antagonists, enzyme inhibitors. Types of interactions. Energy of interactions. Entropy-enthalpy compensation. Chemical libraries.

- The main properties concerning pharmacomolecules' characteristics (pharmaco-similarity, druglikeness) are analysed; both interaction with macromolecules and/or pharmacokinetic behaviour. Statistical techniques applied to develop Quantitative Structure of Action Relationships (QSAR) on the basis of molecular properties (descriptive variables), are reported. Allusion is also made to 3-D QSAR methods (CoMFA, CoMSIA).
- Techniques for protein structure elucidation and function (X-ray, proteomics-Mass Spectrometry), Mass Pharmacological Screening Techniques, HTS (High Throughput Screening): DSF, SPR, NMR.
- Molecular simulations. Small molecules' structure simulations, Molecular mechanics, Molecular dynamics, Homology modelling of protein structure.
- Receptor-based drug design - Ligand-based drug design, docking calculations, *in silico* screening, computer-assisted drugs' design, optimization (Denovo), Fragment-based drug design
- Concepts crucial for drug design: isosteres and bioisosteres, classical isosteres, classical bioisosteres, non-classical bioisosteres, similarity in biochemical activity and in physicochemical properties, non-classical hydrogen and fluorine bioisosteres, chemical conversion of known pharmaceuticals or natural products to lead compounds are analyzed
- The role of stereochemistry in the biological activity of pharmacomolecules. Structure-activity relationships.
- Case studies involving isosteric, bioisosteric and stereochemical structural modifications that lead to the discovery of new drugs, through extensive structure-activity relationship studies.
- Laboratory practice set of 3 tests (small molecule conformational analysis, docking/virtual screening calculations, computational prediction of lipophilicity log).

Biochemical and Molecular Pharmacology

This course gives a thorough account of the molecular and biochemical basis of drugs/biomolecules interaction. The aim is to gain a thorough understanding, from the chemical-biochemical-molecular point of view, of the mechanism of action of pharmacomolecules, at the subcellular level, which is necessary for the rational design and development of new drugs. In general, the course refers to: The structure and function of different types of receptors / Types of drug-receptor interactions / Binding affinity / Agonists - antagonists - partial and reverse agonists / Signal transduction pathways / Advanced theory of receptors/their mutations. In addition, elements concerning: the involvement of molecular pharmacology in drug design, the role of functional groups and stereochemistry in drug-receptor interactions (and in the biological action of compounds, in general), the molecular mechanisms and action of free radical processes in the organism (their correlation with pathological conditions and applications-perspectives in Design and Development of new Pharmaceutical Compounds), are included. Specific topics that are also discussed include: Neurotransmission systems, as molecular drug targets/Gas-transmitters (NO, H₂S, CO)/Molecular pharmacology of phosphodiesterases / Caspases and apoptosis / Protease-activated receptors (PARs) / Oligonucleotides as therapeutic agents/Pharmacological control of transcription, translation and proteostasis.

The Retrosynthetic Approach in the Synthesis of Drug Molecules

The concept of retrosynthesis is discussed for different classes of chemical compounds (alcohols, olefins, ketones, carboxylic acids, saturated hydrocarbons) with two characteristic groups (α,β -unsaturated carbonyl compounds, 1,3- 1,4- 1,5- and 1,6-dicarbonyl compounds), dioxygenated compounds (*alpha* and *c*-hydroxycarbonyl compounds), as well as compounds prepared *via* pericyclic reactions. Examples of the retrosynthetic method on compounds of pharmacological interest are also given. In addition, the general methods of synthesis of the main groups of pharmacologically active compounds are described, e.g., anti-inflammatory, cholinergic, anticholinergic, adrenergic, adrenolytic, sulfonamides, thiazide diuretics, phenothiazines, azaphenothiazines, barbiturates, tricyclic antidepressants, benzodiazepines, etc. In addition, the most important protective groups used *en route* to the preparation of pharmacomolecules, are listed. Comparative studies between the different methods for selecting the most suitable synthetic route for the preparation of pharmaceutical compounds are also highlighted. In addition, the mechanisms of the main organic reactions are studied in order to understand and solve the various problems that arise during the synthetic processes to pharmaceutical molecules. Particular attention is given to the stereochemical issues, and the properties and methods of preparation of derivatives of the main heterocyclic rings included in the skeleton of pharmaceutical compounds. Last, some illustrative case studies of pharmacomolecules' development are described, including the entire process, from the design and optimization to the synthesis of their analogues and/or derivatives.

Advanced Organic Chemistry I

Teaching of the rules of nomenclature of multisubstituted organic molecules, with emphasis on the complex structures of bridged and spiral systems. In-depth consideration of electrophilic and nucleophilic aromatic substitution reactions, mechanisms of these reactions and their application to obtain complex structure compounds of pharmacological interest. Presentation of the reactions leading to the formation of chemical bonds between C_{arom} and Het_{arom}, using palladium and copper catalysts. Study of the mechanisms of these reactions and their application to the synthesis of organic molecules. Protective groups: acid labile, basic labile, protection using silicon compounds and examples. Teaching of the rules of nomenclature of heterocyclic compounds. Heterocyclic systems with trimeric rings (oxiranes, aziridines): nomenclature, preparations, chemical properties. Heterocycles with one or more heteroatoms in a five-membered ring and their derivatives (furan, thiophene, pyrrole, benzo[*b*]furan and benzo[*b*]thiophene): nomenclature, preparations, chemical properties. Pyridine: nomenclature, preparations, chemical properties.

Spectroscopic Methods I

Electromagnetic Radiation, General characteristics of spectra, Spectroscopic Methods. UV-visible spectroscopy: Basic principles. Woodward's Rules. IR Spectroscopy: Brief review of Basic Principles. Absorption of functional groups. Factors affecting absorption frequency. Examples of structure finding, based on IR spectra. Special Topics: FT-IR (Michelson's interferometer, Fourier conversion), Near-IR (basic principles, methodology, examples), use of IR spectroscopy in Pharmaceutical Analysis and in the study of biopolymers. NMR spectroscopy: Description of the phenomenon. Introduction to the FT-NMR technique. Basic parameters (Chemical Shift, Spin-Spin coupling), Study of chemical equilibria. ¹H NMR spectra. ¹³C spectra. Examples of structure elucidation. Special topics: MRI, *in-vivo* spectroscopy. Mass spectra: Description of the spectra: Sample introduction (GC, LC, DIP), Ionization techniques (EI, CI, FAB, ESI, APCI, MALDI), Analyzers (Quadrupole, Magnetic Sector, Electric sector, TOF, Ion Trap, Cyclotron, Tandem MS). High

resolution mass spectroscopy, theory and applications. Analysis of spectra. Molecular ion, Metastable peaks, Isotopic analysis, Determination of molecular type, Mode of fragmentation of organic compounds. Characteristics of fragments of various organic compounds, Examples.

Structure determination of organic compounds by a combination of spectroscopic methods.

The course, also includes the students' involvement in a literature project on specific topics of spectroscopic techniques.

Experimental systems for *in vitro* and *in vivo* Pharmacological Studies

Lectures include description of experimental models and methods for the evaluation of drug action in the following systems/experimental setups:

In vitro testing of basic cellular functions (cell proliferation, migration, apoptosis, senescence)

Studies of signaling systems (western immunostaining, second messenger measurements, FRET)

Gene expression studies PCR, real time PCR, RNA sequencing, ChIP.

Experimental models for cardiovascular diseases (atherosclerosis, ischemia/reperfusion, heart failure, hypertension, renal failure)

Experimental models for respiratory diseases (asthma, COPD)

Genetically modified organisms (mice, drosophila, zebrafish, *C. elegans*)

Experimental models of mutagenesis and cancer

Experimental models of diseases of the nervous system

Experimental models of diseases of the endocrine system

Clinical Pharmacology Pathology – Pathophysiology

Review of clinical pharmacology, basic pathophysiology, aetiology, symptomatology and differential diagnosis of the following diseases:

Digestive System Diseases

Diseases of the gastrointestinal tract: Gastroesophageal reflux disease, oesophagitis, Barrett's oesophagus, motility disorders, achalasia, polyps

Stomach and duodenal diseases: gastritis, ulcers, Zollinger-Ellison syndrome

Cardiological diseases

Hypertension

Arrhythmias with focus on atrial fibrillation

Neurological Diseases

Epilepsy

Parkinson's disease

Multiple sclerosis

Vascular Stroke

Psychiatric Diseases

Mood disorders - antidepressants

Antipsychotics

Anxiolytics, hypnotics/psychotropics/antipsychotics/antipsychotics

Infectious Diseases

Principles of patient history taking

Classification of micro-organisms/ Microbiological diagnosis

The phenomenon of antimicrobial resistance

Pharmacokinetics-Pharmacodynamics of antimicrobials

Infections treated with: B-lactams, aminoglycosides, cephalosporins-carbapenems, macrolides, quinolones, glycopeptides-colimicin, linezolid/ tegacycline, daptomycin

Principles of pathogenesis of infections

Upper respiratory tract infections

Community pneumonia
Urinary tract infections
Hepatitis
Gastroenteritis
Hygiene in the hospital
Antibiotic use policy
Epidemic outbreaks

Statistical Methods and their applications in Pharmaceutical Sciences

- Descriptive Statistics (measures of central location and dispersion)
- Probability distributions (binomial, Poisson, normal, standard normal).
Examples and applications
- Probability (Definitions-actions, bounded probability, Bayes' Theorem. Prior and posterior probability. Examples and Applications)
- Statistical Analysis: Introduction (Variables, Categories of statistical methods, Process of selecting the most appropriate one).
- Statistical Analysis: Statistical Estimation (A sample, Examples and computer application).
- Statistical Analysis: Hypothesis testing (One and two samples, More than two samples, Examples and computer application).
- Linear Regression and Correlation (I): Linear Regression Analysis.
- Linear Regression and Correlation (II): Correlation.
- Special cases of linear regression analysis: (Type II regression, Weighted regression analysis, Extreme values - exogenous observations a) in a continuous variable and b) in linear regression and correlation problems)
- Non-linear regression analysis

Clinical Pharmaceutical Analysis

Types of biological samples. Newer ways of storage, transport (dried blood spots on paper). Storage conditions of samples.

Validation of bioanalytical methods according to the latest EMEA and FDA guidelines. Effect of parent material effect. Repeat analysis. Analysis of real samples. Handling of biological samples for analysis (liquid-liquid extraction, protein precipitation, simultaneous purification with analysis)

Specific techniques for the treatment of biological samples: solid phase extraction, mobile phase extraction by dispersion of the mobile phase on the substrate, adsorptive agitation extraction, solid phase microextraction, molecularly imprinted polymers. Modern sample preparation techniques: large particle substrates, binders for direct sample preparation.

Immunochemical analytical techniques: radioimmunoassay, enzyme, fluorescence, nephelometric immunoassay, lipid immunoassay, drug determinations.

Specific applications of the combined technique of liquid chromatography and mass spectrometry in the identification and quantification of banned substances for doping control.

Pharmacogenetic testing. Definition, use, applications. Chain Polymerase Reaction. Genetic testing.

Metabolomics and metabolism using mass spectrometry.

Second Semester.

Advanced Pharmaceutical Chemistry II

Enzyme Inhibitors

Reversible, non-reversible and allosteric inhibitors. Examples of enzyme inhibitors used in therapeutics.

Anticancer drugs

Categories of anti-cancer drugs: antimetabolites, drugs that bind to DNA by covalent or non-covalent bonding, intercalating agents, drugs that inhibit chromatin function, inhibitors of microtubule function, molecules that induce cleavage of nucleic acid strands, drugs that interfere with endocrine function, inhibitors of protein kinases.

Mechanisms of development of resistance to anti-cancer drugs. New targets of cancer chemotherapy. New classes of drugs.

Antiviral drugs

Development and clinical application of drugs for the treatment of major pathogenic viruses (e.g. influenza, hepatitis, herpesviruses, HIV, SARS CoV2). Inhibitors of virus entry into the cell, excretion of genetic material, transcription, translation, maturation and release - inhibitors of dimerization and function of various viral enzymes. Strategies to address antiviral drug resistance. Combination chemotherapy. Re-targeting of drugs for the treatment of emergency cases.

In all chapters, characteristic representatives of each class of drugs, physicochemical properties important for the pharmacokinetic behaviour, mechanism of action at the molecular level, important biotransformations and structure-activity relationships are discussed.

For each category, illustrative development case studies are described, including design and various stages of structure optimization, up to the discovery of the most suitable active compound for marketing authorization.

Advanced Organic Chemistry II

Teaching of pericyclic reactions and study of their mechanism, based on molecular orbital theory. Detailed study of the three major classes of pericyclic reactions: cycloaddition reactions, electrocyclic reactions and sigmatropic rearrangements, with emphasis on the stereochemistry of the products obtained from each class of reactions. Examples of their application to the synthesis of molecules of pharmaceutical interest. Five-membered ring systems with two heteroatoms (1,3-azoles, 1,2-azoles): nomenclature, preparations, chemical properties. Six-membered ring systems with one or more heteroatoms and their derivatives: (a) quinolines and isoquinolines: nomenclature, preparations, chemical properties; (b) pyranium, D2-dihydropyranium, tetrahydropyranium, pyrrole salts, *alpha*- and *c*-pyrones: nomenclature, preparations, chemical properties. (c) condensed pyrano derivatives: chromanes, coumarins, chromones, flavones, anthocyanidins: nomenclature, preparations, chemical properties; (d) diazines: nomenclature, preparations, chemical properties; (e) indole: nomenclature, preparations, chemical properties. Multicomponent reactions: isonitrile-based (Ugi) or isonitrile-free (Mannich, Pictet-Spengler, Petasis) multicomponent reactions. Click Cu(I)-catalysed organoazide-alkyne cycloadditions. Multi-component reactions. Reactions catalysed by metal metathesis compounds with emphasis on palladium catalysis (Heck, Suzuki, Stille, olefinic metathesis).

Advanced Pharmacology

The course focuses on studying the action of drugs at the molecular, cellular and clinical level, the design of clinical studies and the evaluation of new drugs. An introduction to cardiovascular pharmacology is given and drugs are presented based on the European Society of Cardiology guidelines for the coronary artery disease, heart failure and arrhythmias in terms of mechanism of action, indications, contraindications and interactions. Medicines for hyperlipidemia and diabetes are presented, with particular emphasis on the newer drugs. An introduction to Psychopharmacology is given, with a brief review on the CNS, synapses, receptors and mechanisms of action of CNS acting drugs. The basic principles of new drug discovery and preclinical testing for new CNS drugs are presented. Special emphasis is given to the role of gender with examples from

Neuropsychopharmacology and practical tips for drugs and new drugs testing in both genders, taking into account variations in sex hormones and age. Specific classes of drugs, such as antipsychotics, anxiolytics and antidepressants are analysed in terms of the mechanism of action, indications, contraindications and interactions. The course also provides an analysis of the routes of administration, risks and therapeutic strategies for psychotropic drugs in specific populations, such as during pregnancy and lactation. Last, the most recent data in cancer pathophysiology are presented, as well as the newest anticancer drugs, including monoclonal antibodies; a thorough analysis by class and by type of malignancy according to the newest guidelines of the European Society of Oncology, is given. The adverse effects of anticancer drugs by class and by target organ (heart, kidney and CNS) are analyzed according to the international and European guidelines, the mechanism of drug toxicity is studied and the biomarkers and clinical management of observed cardiac, renal and neurotoxicity are presented. Relevant videos and scientific papers on these topics are presented, as well as on new research directions in the field of Pharmacology.

Spectroscopic Methods II

NMR spectroscopy - New techniques: Vector Description of the Resonance Phenomenon, Pulsed NMR (Practical Application, Basic Parameters for Spectral Acquisition, Signal Collection and Processing, Fourier Conversion, Digital Discrimination, Quadrature Detection). De-excitation. Mechanisms of De-stimulation. Measurement of T1 and T2, Spin-echo. Nuclear Overhauser Effect. Solomon's equations, Spectral Density Function, Correlation Time, Examples of the use of NOE. Polarization Transfer. The INEPT experiment. DEPT experiment. Two-dimensional NMR spectroscopy. Description of the COSY experiment. Modes of analysis of experiments, HETCOR, COLOC, NOESY, ROESY, HMQC, HMBC, TOCSY. Examples, applications.

The course includes a laboratory exercise. Students record, with the help of an instructor, spectra of 2D NMR compounds and write a report related to the assignment of spectral peaks.

Literature Survey Methods

A brief description of the capabilities of Microsoft-Word 365 software is given. An analysis of scientific articles, books, reviews, the terms: impact factor, cite score, DOI is also provided. The main characteristics of a publication are pointed out: title, authors, abstract, introduction, materials-methods, results, conclusions, references. Students also learn how authors are assessed, based on recognized scientific indicators, such as impact factor and h-index. This is followed by a detailed description of three bibliographic classification software: endnote, Mendeley and Zotero with examples in Microsoft Word format files. In addition, the software for drawing chemical structures and inserting them into electronic documents, is shown. Last, a thorough account of the use of microsoft - powerpoint software and the rules governing a successful scientific presentation with detailed examples, is given.

Legislation – Regulatory Affairs

The course deals with the Legislation governing the approval of Clinical Trials & New Drug Products for human use. Specifically, it refers to the legal regime that was in place historically and is still in force today.

- EU Medicines Agency – EMA/E.O.F. (National Organisation for Medicines).
- Clinical Trials, Interventional Clinical Trials, Bioequivalence Studies
- Ethical & Moral Issues in Clinical Trials, National Ethics Committee for Clinical Trials (NEC), The Consent Form.

- Non-Invasive Clinical Trials, Non-Commercial Clinical Trials, Amendments to Clinical Trials, Palliative Therapies.
- Need for Pharmaceutical Products' Regulation.
- New Pharmaceutical Legislation for the Approval/Adjustment of Marketing Authorisations for Medicinal Products for Human Use.
- Historical Evolution of Regulatory Requirements for the Marketing of Pharmaceutical Products for Human Use.
- Approval Procedures: Domestic Procedure, Central Procedure, Decentralised Procedure, Mutual Procedure.
- Pharmaceuticals of Plant Origin, Homeopathic Medicinal Products, Orphan Medicinal Products.
- Implementation of marketing authorization requirements.

Advanced Radiopharmaceutical Chemistry

Fundamentals of Radiopharmaceuticals. Tracer and Coil Interaction Chemistry. Radiopharmaceutical compounds of Technetium, Rhenium, Indium and other radiometals. Iodine radiopharmaceutical compounds. Radiopharmaceuticals with cyclotron radionuclides. Molecularly targeted radiopharmaceuticals. Molecular targeting of central nervous system receptors. Detection of infections - inflammation. Radiolabeled antibodies and peptides. Evaluation of radiopharmaceuticals in animal models.

Synthesis and production of radiopharmaceuticals

General Radiopharmaceuticals (Diagnostic - Therapeutic) - Production of radionuclides for medical applications - Radioisotope generators - Pharmaceutical forms of radiopharmaceuticals - Laboratory exercises to simulate radioisotope and radiopharmaceutical production.

Quality Control of Medicines

Chemical testing of pharmaceutical raw materials and excipients: identification tests, related substances, impurities, heavy metal and organic solvent testing, moisture and ash testing. Physical and physicochemical controls. Biological and microbiological controls. Chemical and pharmaceutical technology controls of preparations. Sampling. Quality control and quality assurance. Quality control laboratories for raw materials and pharmaceuticals (legislation). Pharmacopoeia and Pharmaceutical Codes.

Practice in the Pharmaceutical Industry or Hospital

This internship is coordinated by a faculty member of the Pharmacology Laboratory of the Pharmaceutical Chemistry Section of the Department of Pharmacy.

The course mainly involves practical training in selected Pharmaceutical Industries. The internship aims to familiarize the postgraduate student with the specialized tasks that take place in the pharmaceutical industry.

The activities of the postgraduate students include their acquaintance with the practices followed in the various stages of development, the production, the quality assurance and control of pharmaceutical products, with particular emphasis on the design and conduct of clinical studies, and the monitoring and participation in the work carried out in various units/departments of the Pharmaceutical Industry.

Training Seminars

The lectures cover topics that are not covered by the courses and more specifically in the following areas:

- Pharmaceutical care I, II
- Pharmacogenomics and personalized treatment I, II

- Proteomics technologies and examples of applications in biomarkers' discovery and therapeutic target discovery
- Design and publication of research protocols using laboratory animals
- New era for the Pharmaceutical Industry at the dawn of the 4th Industrial Revolution
- Crystallography
- Clinically important drug interactions
- Drug licensing arrangements in research and innovation
- Filing/writing CVs – *en route* to interviews
- Skin irritability from drugs
- Copyright and patents in drug research and development
- Fundamentals of clinical research
- Academic writing course on research essays, review of the literature, etc
- Stem cells and modern therapies

3rd and 4th Semester

MSc Dissertation Implementation

The third and the fourth semester of the programme, is scheduled for the compilation of research/bibliographic data and the write of the MSc dissertation.

Content: The subject of the Master's dissertation must be of a research nature and original.

Thesis topics are drawn from the wide range of scientific fields covered during the MSc Programme. They involve a thorough investigation of an original research topic, in the subjects of the three (3) directions of the MSc Programme (Pharmaceutical Chemistry, Pharmacology and Radiopharmaceutical Chemistry).

3.2.8 EXAMINATIONS AND ASSESSMENT OF POSTGRADUATE STUDENTS

The educational work of each academic year is structured in two semesters of study, winter and spring, each of which lasts at least thirteen (13) weeks of courses teaching and two (2) to three (3) weeks of examinations.

In the event of reasoned impediments during the courses teaching period, the course(s) will be retaken. The time of the course retaking is posted in the e-class of the particular course(s) of the MSc Programme.

Attendance of the courses, workshops and seminars is compulsory. In the case of the pharmacology specialization, the practical training is also compulsory. The postgraduate student is considered to have attended a course (and therefore is entitled to participate in the examinations) only if he/she has attended at least 90% of the course teaching hours. Otherwise, the postgraduate student is obliged to attend the course once again in the following academic year. If the student's absence rate exceeds 10% of the total number of courses, the student will be expelled from the MSc Programme. The rejection of the student from the Programme should be proposed by the C.C. to the General Assembly of the Department of Pharmacy.

For the courses/seminars attendance book keeping, the person responsible is the Secretariat of the MSc Programme, who is informed about the students' absences recorded by the lecturers at the end of the courses, internships, seminars, etc.

The assessment of the postgraduate students and their performance in the courses is carried out at the end of each semester by means of written or oral examinations. The type of assessment is determined by the lecturer of each course.

Information on alternative methods of assessment, in the case of emergencies or circumstances related to reasons of force majeure (students with disabilities and special

educational needs, cases of illness or recovery from serious illness), is given in the Internal Regulations of the MSc Programme “Drug Design and Development”.

Grading is on a scale of 1-10. The results of the examinations are announced by the lecturer and sent to the Secretariat of the MSc Programme and the Department within five (5) weeks, at the latest, after the examination of the course.

If the student fails more than three (3) times in the same course, the procedure laid down in the applicable legislation is followed. More specifically, the student will be examined, at his/her request, by a committee of three faculty members of the Department of Pharmacy, with the same or related subject to the particular course. The lecturer(s) responsible for the first-time examination is excluded from this committee. If the student fails again in even one of the courses due, he/she will be expelled from the MSc Programme.

In order to obtain a Master's degree, each postgraduate student must attend and successfully pass all the courses offered in the MSc Programme and prepare a postgraduate level dissertation, in order to meet the one hundred and twenty (120) ECTS graduation requirement.

The MSc is obtained by the sum of (credits x course grade) plus (credits x thesis grade) divided by the total number of credits of the course and thesis.

Further information on these calculations is given in the Internal Regulations of the M.Sc. Programme.

3.2.9 PREPARATION OF POSTGRADUATE DISSERTATION

The write up of the postgraduate dissertation is compulsory, and as already mentioned, is carried out during the third and fourth semester and is credited with sixty (60) ECTS. The dissertation may be conducted at a foreign university within the framework of the ERASMUS Programme, in accordance with the "Mobility Regulation" of the ERASMUS Programme (Erasmus_Programme_Guide2023_en, <http://www.interel.uoa.gr/erasmus.html>), which is underpinned by the National and Kapodistrian University of Athens.

After the candidate's application, in which the proposed title of the dissertation, the supervisor and an abstract of the proposed work are indicated, the General Assembly of the Department of Pharmacy, following a relevant recommendation from the C.C. of the MSc Programme, appoints the supervisor and the two other members of the three-membered Examination Committee for the approval of the dissertation.

In any case, at least two members of the Examination Committee must be members of the relevant Department.

The dissertation must be original, of research nature, and written in accordance with the writing guidelines given below.

The Master's dissertation must be written in Greek or, in exceptional cases, in English and this must be specified concurrently with the MSc's topic approval.

For the writing of the Master's thesis, candidates must follow the instructions below:

The cover page and title page must contain the following information:

- The National and Kapodistrian University of Athens logo in cyan (The “Athena Logo”, above and to the center or left of the words “National and Kapodistrian University of Athens”)
- The words “School of Health Sciences”.
- The words “Department of Pharmacy”.
- The words “Section of Pharmaceutical Chemistry”.
- The words “Postgraduate Diploma in Drug Design and Development - Specialisation: Pharmaceutical Chemistry (or: Pharmacology, or:

Radiopharmaceutical Chemistry)”.
- The full title of the thesis.

- The words “Postgraduate Thesis”.
- The full name of the candidate.
- Title/Status of the postgraduate student (Pharmacist/Physician/Chemist/ Chemical Engineer/Biologist)
- Registration number of the postgraduate student
- In the lower half of the page, in the centre, the word “Athens” and the year of the thesis support.

The pagination should be in the following order:

- Title page
- Three-Member Examination Committee (Names, Titles).
- Abstract (Greek and English, 500 words minimum)
- Foreword, Acknowledgements, Dedications (Optional)
- Contents, with a record of the numbering of the corresponding pages
- List of Abbreviations/Symbol List
- Main body of the paper (including Introduction, Methodology, Results and Discussion/Conclusion)
- Bibliography
- Annexes (if available)

Page formatting:

- Line spacing: 1.5 line
- Font: Calibri or Times New Roman 11
- Double-sided printing

Bibliography template:

- In-text citation: (first author's last name et al., year of publication).
- In the case of two authors, both names are given in brackets followed by the year of publication.
- Surnames are given without initials unless there is a synonym.
- Bibliographies are listed alphabetically and then chronologically. If the same author has more than one bibliography, then these are listed chronologically, for example: (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999; Kramer et al., 2010)
- In the Bibliography section they are listed alphabetically.

In order for the dissertation to be approved, the student must support it before the Examination Committee (par.4, article 34, Law 4485/2017). The work is graded on a scale of zero to ten (0 - 10), the minimum passing grade being defined as “five” (5). At the end of the four semesters, the postgraduate student must have completed and supported his/her thesis (except in the cases of “extension” or “suspension” of studies).

In case of failure to successfully comply with the MSc requirements (average grade of less than five) or failure to complete the dissertation within the requisite period time, the postgraduate student is obliged to discontinue his/her studies.

The postgraduate thesis, if approved by the examination committee, are posted in the Digital Repository “PERGAMOS”, according to the relevant resolution of the Senate of the University of Athens.

If the dissertation includes original results, that have not been published, only the abstracts may be published on the website upon request of the supervisor, which is co-signed by the postgraduate student, and the full text may be published later.

POSTGRADUATE DISSERTATION: INTELLECTUAL PROPERTY RIGHTS

The research carried out, as part of the thesis requirements, is primarily aimed at educating the postgraduate student and gaining research experience.

The subject of the research may be part of ongoing and often long-term research carried out by research teams and supervisors in a specific field of science, often in the context of research projects.

Each postgraduate student shall diligently keep a research lab book. The lab book, as well as the relevant scientific data and information (spectra, recordings, electronic files, etc.) belong to the laboratory, where the student works and remain there when the student completes his/her studies.

The supervisor is responsible for the presentation of results to third parties (publications in journals, conference papers, reports to institutions, patents scripts, etc.), in accordance with the international practice and scientific ethics. Any form of exploitation of research results (including financial exploitation) will be governed by the regulations of the N.K.U.A. and the contracts that are drafted by the Institution with third parties.

3.2.10 TUITION AND FEES - TUITION AND FEES WAIVER

For their enrolment in the M.Sc. Programme “Drug Design and Development”, the postgraduate students are obliged to pay tuition and fees of € 700 per semester. The fees are paid at the beginning of each semester.

The payment of the tuition and fees shall be made by the student himself/herself or by a third authorized person on behalf of the student, provided that this agreed *a priori* by both the M.Sc. Programme responsible personnel and the student.

In the case that the students, for any reason, discontinue their studies, the fees already paid shall not be refunded.

Students who meet the financial or social criteria and the requirements for excellence in the first cycle of their studies, are exempted from their tuition and fees obligations, in accordance with the legislation in force. The exemption is granted in the case of participation in only one M.Sc. Programme. In any case, the number of students entitled for tuition and fees exemption shall not exceed thirty percent (30%) of the total number of students admitted to the M.Sc. Programme, per academic year.

The application for a waiver must be submitted after the completion of the selection process of the students of the M.Sc. Programme. The financial situation of an applicant is in no case a reason for not being selected for a M.Sc. Programme.

Those who receive a scholarship from another source are not eligible for exemption, nor are the non-EU citizens.

Members of the categories of E.E.P., E.D.I.P., E.T.E.P., who are admitted as supernumeraries, are exempted from the payment of tuition fees.

In the case of simultaneous attendance of members of the same family, up to the second degree of kinship, by blood or affinity, there is a possibility of a 50% reduction in the tuition and fees paid.

3.2.11 OBLIGATIONS AND RIGHTS OF THE POSTGRADUATE STUDENTS

1. Postgraduate students have all the rights and benefits provided for students of the first cycle of studies, until the completion of their studies, including any extension of studies granted, except for the right to free textbooks.

2. The Institution shall ensure that students with disabilities and/or special educational needs have accessibility to the proposed textbooks and teaching facilities (<https://access.uoa.gr/>).

3. The Liaison Office of the N.K.U.A. provides counselling to students, as to their studies and professional issues (<https://www.career.uoa.gr/ypiresies/>).

4. Postgraduate students are invited to participate and attend research group seminars, literature review discussions, laboratory visits, conferences/meetings of subjects related to the M.Sc. Programme, lectures or other scientific events, taking place in the context of the M.Sc. Programme, etc.
5. The General Assembly of the Department of Pharmacy, after the recommendation of the C.C., may decide to expel postgraduate students if:
 - they exceed the maximum number of absences,
 - they have failed the examination of a course or courses and have not successfully completed the programme, in accordance with the provisions of the relevant regulations,
 - they exceed the maximum duration of study, as set out in the Regulation of the M.Sc. Programme,
 - have violated the applicable provisions regarding the treatment of disciplinary offences by the authorized disciplinary authorities,
 - fail to pay the requisite attendance fee,
 - submit an application to voluntarily withdraw from the MSc Programme .
6. In the event that a postgraduate student is withdrawn from the M.Sc. Programme, he/she may request a certificate for the courses, which he/she has successfully passed.
7. Students may participate in international student exchange programmes, such as ERASMUS⁺ or CIVIS, in accordance with the relevant legislation. In this case the maximum number of ECTS that can be credited is thirty (30). More specifically, the dissertation can be carried out in a foreign university within the framework of the ERASMUS programme, according to the “Mobility Regulation” of the ERASMUS scheme (Erasmus_Programme_Guide2023_en, <http://www.interel.uoa.gr/erasmus.html>), which is underpinned by the National and Kapodistrian University of Athens. This possibility is provided after the first semester of their studies. Students should apply to the C.C. and conform to the terms of the programme.
8. The M.Sc. Programme can be attended by students from international student exchange programmes, such as the ERASMUS+ programme, according to the cooperation agreements agreed, provided that they are proficient with the Greek language, which is proved by a language proficiency certificate of B2 level, or as indicated in the respective programme.
9. Postgraduate students of the N.K.U.A. may enrol the M.Sc. Programmes of the same or other Universities in Greece or foreign countries, in the framework of educational or research cooperation programmes, in accordance with the relevant legislation.
10. It is possible to concurrently conduct undergraduate and postgraduate studies in a Programme or in two (2) Postgraduate Programmes of study of the same or another Department of the same or another H.E.I.
11. At the end of each semester an evaluation of each course and each course instructor is carried out by the postgraduate student(s).
12. Postgraduate students may request the award of a diploma supplement in Greek and English.
13. For their participation in the M.Sc. “Drug Design and Development”, the postgraduate students pay tuition and fees of 700 Euros per semester. The tuition and fees must be paid at the beginning of each semester.
14. In the event of a definitive discontinuation of studies or withdrawal of a postgraduate student from the Programme, for any reason, the fees already paid shall not be refunded.

3.2.12 RESOLUTION OF STUDENTS' COMPLAINTS

All members of the Coordinating Committee of the M.Sc. Programme “Drug Design and Development” are in full agreement about the steps followed in dealing with the resolution of issues arising from the submission of complaints and/or objections by students. This is an extremely critical process for the improvement of the services provided by the staff, at the educational and administrative level.

In this context, the staff members consider the complaints and/or objections, put forward by the students, as opportunities for the MSc course improvement. The sequence of steps taken in dealing with the students' complaints and objections are clearly described in the "Regulations for the operation of the complaints and objections management mechanism" of the M.Sc. Programme “Drug Design and Development”, which is posted on the website of the Department of Pharmacy, M.Sc. Programme “Drug Design and Development”.

3.2.13 ACADEMIC ADVISOR

The successful implementation of the M.Sc. Programme “Drug Design and Development” of the Department of Pharmacy relies on the student/faculty cooperation in good faith. On this basis, the Programme has established the educational post of the Academic Advisor for Studies.

The post of the Academic Advisor is based on article 35 (Law 4009/2011 GG A 195) where the following is stated: "The academic advisor guides and supports students in their study programmes. The Internal Regulation of each institution defines the assignment of duties of the study advisor and regulates the specific issues involved.

The educational post of the Academic Advisor has been created in order to facilitate undergraduate students to complete their studies in a more efficient way, aiming to reduce the number of "stagnant" students. The same applies to the postgraduate students, who are invited to make use of the services provided by the Academic Advisors to resolve any difficulties they may encounter. With the establishment of the Academic Advisor post, every postgraduate student is given the opportunity to have direct and effective communication with the professors responsible for the courses taught. In this way, each student will be able to obtain reliable information on the issues that concern him/her regarding his/her personal goals and their harmonization with both the educational program of the M.Sc. Programme and the general framework of his/her integration into the work force, as a new scientist.

The role of the Academic Advisor is clearly described in the relevant “Regulation of the Academic Advisor Institution” of the M.Sc. Programme “Drug Design and Development”, which is posted on the website of the Department of Pharmacy, M.Sc. Programme “Drug Design and Development”.

3.2.14 COURSES AND FACULTY OF THE POSTGRADUATE PROGRAMME “DRUG DESIGN AND DEVELOPMENT”

The courses teaching syllabus of the M.Sc. Programme “Drug Design and Development” is approved by the General Assembly of the Department of Pharmacy, following a relevant recommendation of the MSc's CC, according to the Internal Regulations of the M.Sc. Programme “Drug Design and Development”.

The courses titles and the teaching staff per course are listed in paragraphs 3.2.6 and 3.2.7.

Advanced Pharmaceutical Chemistry I

Faculty: E. Mikros (Professor), G. Zoidis (Associate Professor), Dr. G. Lambrinidis (E. DI. P.), A. Tsantili (Professor Emeritus) Department of Pharmacy N.K.U.A..

Biochemical and Molecular Pharmacology

Faculty: A. Papapetropoulos (Professor), A. Kourounakis (Professor) Department of Pharmacy N.K.U.A..

The Retrosynthetic Approach in the Synthesis of Drug Molecules

Faculty: A. Tsoinis (Professor), I. Kostakis (Associate Professor), G. Zoidis (Associate Professor), I. Papanastasiou (Associate Professor) Department of Pharmacy N.K.U.A..

Advanced Organic Chemistry I

Faculty: A. Kolokouris (Professor), I. Kostakis (Associate Professor), N. Lougiakis (Assistant Professor) Department of Pharmacy N.K.U.A..

Spectroscopic Methods I

Faculty: E. Mikros (Professor) Department of Pharmacy N.K.U.A..

Experimental Systems for *in vitro* and *in vivo* Pharmacological Studies

Faculty: A. Papapetropoulos (Professor), I. Andreadou (Professor) Department of Pharmacy N.K.U.A..

Clinical Pharmacology / Pathophysiology

Faculty: S. Markantoni-Kyroudi (Professor), N. Drakoulis (Associate Professor) Department of Pharmacy N.K.U.A., E. Giamarellos-Bourboulis, (Professor of Pathology), G. Vaiopoulos, (Professor Emeritus) Medical School N.K.U.A..

Statistical Methods and their applications in Pharmaceutical Sciences

Faculty: C. Reppas (Professor), G. Valsami (Professor), M. Christoforou-Symillidou (Associate Professor), A. Dokoumetzidis (Associate Professor), P. Macheras (Professor Emeritus) Department of Pharmacy N.K.U.A..

Clinical Pharmaceutical Analysis

Faculty: E. Panteri (Professor), I. Loukas (Associate Professor), I. Dotsikas (Associate Professor), K. Georgakopoulos (Associate Professor) Department of Pharmacy N.K.U.A., E. Gikas (Professor) Department of Chemistry N.K.U.A., I. Papoutsis (Associate Professor) Medical School N.K.U.A..

Advanced Pharmaceutical Chemistry II

Faculty: P. Marakos (Professor), N. Pouli (Professor) Department of Pharmacy N.K.U.A..

Advanced Organic Chemistry II

Faculty: A. Kolokouris (Professor), I. Kostakis (Associate Professor), N. Lougiakis (Assistant Professor) Department of Pharmacy N.K.U.A..

Advanced Pharmacology

Faculty: I. Andreadou (Professor), A. Papapetropoulos (Professor) Department of Pharmacy N.K.U.A., C. Dalla (Associate Professor) Medical School N.K.U.A..

Spectroscopic Methods II

Faculty: E. Mikros (Professor) Department of Pharmacy N.K.U.A..

Literature Survey Methods

Faculty: Dr. G. Lambrinidis (E. DI. P.) Department of Pharmacy N.K.U.A..

Legislation-Regulatory Affairs

Faculty: Dr. F. Tzavella (Assistant Professor) Nursing Department Univeristy of Peloponnesse, Dr. K. Gkirtis (E.O.F.).

Advanced Radiopharmaceutical Chemistry

Faculty: M. Papadopoulos (Research Director), I. Pirmettis (Research Director), A. Chiotellis (Assistant Researcher) N.C.S.R. “Demokritos”.

Synthesis and Radiopharmaceutical Agents Production

Faculty: M. Papadopoulos (Research Director), I. Pirmettis (Research Director), A. Chiotellis (Assistant Researcher) N.C.S.R. “Demokritos”.

Drugs' Quality Control

Faculty: M. Koupparis (Emeritus Professor) Department of Chemistry N.K.U.A.

3.3 Oath given by the “DRUG DESIGN AND DEVELOPMENT” PROGRAMME MSc Diploma Holder

“Having been awarded the Postgraduate Degree in Pharmacy of the Department of Pharmacy, I, before the President of the Department of Pharmacy give an oath of allegiance. I will diligently pursue the science and promote it to the fullest extent possible, and will willingly do everything that is necessary and live out a life of piety and modesty, not to abuse the science, which I serve.

This is my vow, and may I have God's help in my life.”

3.4 POSTGRADUATE STUDENTS' ASSOCIATION

The SY.ME.F.F.A. was founded in 1998, due to the need of the Postgraduate Students of the Department of Pharmacy of the National and Kapodistrian University of Athens for communication, initially among themselves and mainly with the Administrative Bodies of the Department and the University in general.

It has about 120 members and its activities concern all the Postgraduate Students of the Department of Pharmacy. It is governed by a 7-membered Board of Directors, elected on a single ballot, in the Elections held in the month of May, after its last General Assembly (to report on its work in the previous year). In these elections, a 3-membered Audit Committee (of the financial transactions of SY.ME.F.F.A.) is also elected.

Information: Secretariat of the Department of Pharmacy

<http://www.pharm.uoa.gr/symeffa>

4. DEPARTMENT OF PHARMACY: PHONE DIRECTORY

President: Christos Reppas (Professor) 727-4678
Secretary: Maria Ath. Xesfiggi 727-4193

FACULTY MEMBERS (D.E.P.)

Aligiannis Nektarios (Associate Professor Ph/gnosy) -4757
Andreadou Ioanna (Professor Ph.Chem.) -4827
Valsami Georgia (Professor Pharm.Tech.) -4022
Vertzoni Maria (Associate Professor Pharm.Tech.) -4035
Vlachou Marilena (Associate Professor Pharm.Tech.) -4674
Dallas Paraskevas (Assistant Professor Pharm.Tech.) -4677
Demetzos Konstantinos (Professor Pharm.Tech.) -4596
Dokoumetzidis Areistidis (Associate Professor Pharm.Tech.) -4122
Drakoulis Nikolaos (Associate Professor Pharm.Tech.) -4225
Zoidis Grigorios (Associate Professor Ph.Chem.) -4809, -4808
Ioannou Efstathia (Associate Professor Ph/gnosy) -4913
Karalis Evangelos (Associate Professor Pharm.Tech.) -4267
Kolokouris Antonios (Professor Ph.Chem.) -4834, -4315
Kourounakis Angeliki (Professor Ph.Chem.) -4818, -4831
Kostakis Ioannis (Associate Professor Ph.Chem.) -4212
Lougiakis Nikolaos (Assistant Professor Ph.Chem.) -4759, -4184
Loukas Ioannis (Associate Professor Ph.Chem.) -4224, -4039
Magiatis Prokopios (Associate Professor Ph/gnosy) -4052
Marakos Panagiotis (Professor Ph.Chem.) -4184, -4830
Markantoni-Kyroudi Sofia (Professor Pharm.Tech.) -4676
Mitakou Sofia (Professor Ph/gnosy) -4597
Mikros Emmanouil (Professor Ph.Chem.) -4813, -4855
Myrianthopoulos Vasileios (Assistant Professor Ph.Chem.) -4353
Dotsikas Ioannis (Associate Professor Ph.Chem.) -4039, -4696
Panderi Irene (Professor Ph.Chem.) -4820, -4823
Papanastasiou Ioannis (Associate Professor Ph.Chem.) -4828, -4808
Papapetropoulos Andreas (Professor Ph.Chem.) -4786
Pippa Anastasia-Georgia (Assistant Professor Pharm.Tech.) -4025
Pouli Nicole (Professor Ph.Chem.) -4185, -4184
Rallis Michail (Associate Professor Pharm.Tech.) -4699
Rekkas Dimitrios (Professor Pharm.Tech.) -4023
Reppas Christos (Professor Pharm.Tech.) -4678
Roussis Vasileios (Professor Ph/gnosy) -4592
Skaltsa Eleni (Professor Ph/gnosy) -4593
Skaltsounis Alexios-Leandros (Professor Ph/gnosy) -4598
Symillidou Moira (Associate Professor Pharm.Tech.) -4675
Tzakou Olga (Professor Ph/gnosy) -4591
Tsotinis Andrew (Professor Ph.Chem.) -4812
Fokialakis Nikolas (Assistant Professor Ph/gnosy) -4727
Halabalaki Maria (Assistant Professor Ph/gnosy) -4781
Chinou Ioanna (Professor Ph/gnosy) -4595

LABORATORY TEACHIN PERSONNEL

Graikou Konstantia (E.DI.P. Ph/gnosy)	-4283
Lamprinidis Georgios (E.DI.P. Ph.Chem.)	-4304, -4521
Melliou Eleni (E.DI.P. Ph/gnosy)	-4052
Benaki Dimitra (E.DI.P. Ph.Chem.)	-4521
Stathopoulos Panagiotis (E.DI.P. Ph/gnosy)	-4781
Kalpoutzakis Eleftherios (E.DI.P. Ph/gnosy)	-4607, -4886

TECHNICAL STAFF

Drosopoulos Dimitrios (E.T.E.P. Ph.Ch..)	-4529
Papathanasiou Vasiliki (E.T.E.P. Ph.Tech.)	-4367
Charvala Zoi (E.TE.P. Ph/gnosy)	-4588

LABORATORY ASSISTANT STAFF

Abatis Dionysios	-4767
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DEPARTMANT SECRETARIAT

(Fax : 727-4059)

ADMINISTRATION STAFF:

Xesfiggi Maria (Secretary)	-4193
Manou Olga (administrative affairs)	-4355
Georgiou Freideriki (administrative affairs / PhD level)	-4058

STUDENT AFFAIRS:**Undergraduate level etc.:**

Gouzias Evangelos	-4093
Chatzipavlou Ioanna	-4351

Postgraduate level etc.:

Nikolaidou Aikaterini	-4666
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SECTION OF PHARMACEUTICAL CHEMISTRY

(Fax : 727-4747)

Director: Emmanouil Mikros (Professor)	-48130
Secretary: Karpozilou Rachil	-4523

SECTION OF PHARMACOGNOSY AND NATURAL PRODUCT CHEMISTRY

(Fax : 727-4826)

Director: Vasileios Roussis (Professor)	-4592
Secretary: Charvala Zoi	-4588
Kapsali Foteini	-4290

SECTION OF PHARMACEUTICAL TECHNOLOGY

(Fax : 727-4027)

Director: Paraskevas Dallas (Assistant Professor)	-4677
Secretary: Papathanasiou Vasiliki	-4367
Brova Nonna	-4681

OTHER USEFUL PHONES

LIBRARY (School of Science)	-6599
JANITORIAL OF GEOLOGY (Internal Post Office)	-4219

BUILDINGS' SUPERINTENDENT	-4379, -4683
T.Y.P.A.	-4300, 4120, 4541
TELECOMMUNICATIONS	-4286, -4217
MEDICAL OFFICE (School of Science)	-4391
MEDICAL OFFICE IN THE FACULTY OF PHILOSOPHY	-7873

ANNEX I
MODEL OF DIPLOMA SUPPLEMENT



HELLENIC REPUBLIC

**National and Kapodistrian
University of Athens**

—EST. 1837—

**SCHOOL OF HEALTH SCIENCES
DEPARTMENT OF PHARMACY**

DIPLOMA SUPPLEMENT

The Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international “transparency” and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgments, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 Family name(s):

1.2 Given name(s):

1.3 Date of birth (*day/month/year*)– Place– Country of Birth:

1.4 Student identification number or code (*if available*):

2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Name of qualification and (*if applicable*) title conferred (*in original language*):

METAPTYCHIAKO DIPLOMA EIDIKEFSIS “SCHEDIASMOS KAI ANAPTYXI
NEON FARMAKEYTIKON ENOSEON” – Master’s degree (MSc) in “DRUG
DESIGN AND DEVELOPMENT”

2.2 Main field(s) of study for the qualification: POSTGRADUATE STUDIES
PROGRAM IN DRUG DESIGN AND DEVELOPMENT

2.3 Name and status of awarding institution (*in original language*): ETHNIKON KAI KAPODISTRIAKON PANEPISTIMION ATHINON, EKPA (NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS, NKUA)

2.4 Name and status of institution (*if different from 2.3*) administering studies (*in original language*):

2.5 Language(s) of instruction/examination: GREEK

3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Level of qualification: SECOND CYCLE DEGREE, METAPTYCHIAKO DIPLOMA EIDIKEFSIS, equivalent to the MASTER'S DEGREE, MSc

3.2 Official length of programme: 4 SEMESTERS

3.3 Access requirement(s): The selection of the students is made in accordance with the law 4957/2022 and the provisions of the Internal Operation Regulations of the Postgraduate studies program in "Drug Design and Development". In June/July of every academic year, by the relevant resolution of the Assembly General of the Department of Pharmacy, NKUA, an announcement is published and posted in the sites of the Department and the NKUA, for the admission of graduate students in the Postgraduate studies program in "Drug Design and Development".

4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study: FULL

4.2 Programme requirements:

A) A total of 120 ECTS credits are required to complete the degree

B) Compulsory studies of at least 4 semesters

C) Master students are required to successfully attend and complete all modules (60 ECTS),

D) Master students are required to submit a postgraduate thesis in a subject related to the specialization (60 ECTS)

4.3 Programme details: (e.g. modules or units studied), and the grades/marks/credits obtained: (*if this information is available on an official transcript this should be used here*)

4.3.1. Module: Medicinal Chemistry

A/A	COURSE TITLE	Semester	Teaching hours/ week	ECTS Credits	Grade	Academic Year
1	Advanced Pharmaceutical	1st	2	6		

	Chemistry I					
2	Biochemical and Molecular Pharmacology	1st	2	6		
3	The Retrosynthetic Approach in the Synthesis of Drug Molecules	1st	2	6		
4	Advanced Organic Chemistry I	1st	2	6		
5	Spectroscopic Methods I	1st	2	6		
6	Advanced Pharmaceutical Chemistry II	2nd	2	6		
7	Advanced Organic Chemistry II	2nd	2	6		
8	Advanced Pharmacology	2nd	2	6		
9	Spectroscopic Methods II	2nd	1	3		
10	Literature Survey Methods	2nd	1	3		
11	Legislation-Regulatory Affairs	2nd	1	3		
12	Seminars	2nd	2	3		
13	MSc Dissertation Implementation	3rd, 4th		60		

4.3.2. Direction: Pharmacology

A/A	COURSE TITLE	Semester	Teaching hours/ week	ECTS Credits	Grade	Academic Year
1	Biochemical and Molecular Pharmacology	1st	2	6		
2	Experimental Systems for in vitro and in vivo Pharmacological Studies	1st	2	6		
3	Clinical Pharmacology/ Pathophysiology	1st	4	8		

4	Statistical Methods and their applications in Pharmaceutical Science	1st	2	4		
5	Clinical Pharmaceutical Analysis	1st	2	6		
6	Advanced Pharmacology	2nd	2	6		
7	Advanced Pharmaceutical Chemistry II	2nd	2	6		
8	Literature Survey Methods	2nd	1	3		
9	Legislation-Regulatory Affairs	2nd	1	3		
10	Pharmaceutical Industry or Hospital Practice	2nd	6	10		
11	Seminars	2nd	2	2		
12	MSc Dissertation Implementation	3rd, 4th		60		

4.3.3. Direction: Radiopharmaceutical Chemistry

A/A	COURSE TITLE	Semester	Teaching hours/ week	ECTS Credits	Grade	Academic Year
1	Advanced Pharmaceutical Chemistry I	1st	2	6		
2	Biochemical and Molecular Pharmacology	1st	2	6		
3	The Retrosynthetic Approach in the Synthesis of Drug Molecules	1st	2	6		
4	Advanced Organic Chemistry I	1st	2	6		
5	Spectroscopic Methods I	1st	2	6		
6	Advanced Pharmaceutical Chemistry II	2nd	2	5		
7	Advanced Radiopharmaceutical Chemistry	2nd	3	10		

8	Synthesis and Radiopharmaceutical Agents Production	2nd	3	10		
9	Drugs' Quality Control	2nd	2	5		
13	MSc Dissertation Implementation	3rd, 4th		60		

Total ECTS: 120

4.4 Grading scheme and, if available, grade distribution guidance:

THE GREEK GRADING SYSTEM: THE GRADING SCALE SPANS FROM 1 TO 10 AND THE SUCCESSFUL EXAMINATION GRADES SPAN FROM 5 TO 10 AS FOLLOWS:

5 - 6,49 = GOOD

6,50 - 8,49 = VERY GOOD

8,5 - 10 = EXCELLENT

4.5 Overall classification of the qualification (*in original language*):

MSc in "DRUG DESIGN AND DEVELOPMENT"

5. INFORMATION ON THE FUNCTION OF THE QUALIFICATION

5.1 Access to further study: to the third cycle leading to the doctorate degree (PhD),
DIDAKTORIKO DIPLOMA

6. ADDITIONAL INFORMATION

6.1 Additional information:

- a) PARTICIPATION IN CONFERENCES, SEMINARS ETC:
- b) ERASMUS MOBILITY PROGRAM:
- c) AWARDS, DISTINCTIONS:

6.2 Further information sources:

NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS WEB SITE:

www.uoa.gr,

DEPARTMENT OF PHARMACY WEB SITE: www.pharm.uoa.gr

MINISTRY OF EDUCATION, RESEARCH AND RELIGIOUS AFFAIRS WEB SITE:

www.minedu.gov.gr

7. CERTIFICATION OF THE SUPPLEMENT

7.1 Date:

7.2 Signature:

7.3 Capacity: BY ORDER OF THE RECTOR, THE DIRECTOR OF EDUCATION AND
RESEARCH:

7.4 Official stamp or seal:

8. INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

The Higher Education Level, in Greece, is comprised of two parallel sectors: a) the University sector, which includes the Universities, the Technical Universities and the School of Fine Arts and b) the Technological sector, which includes the Higher Technological Education Institutions and the School of Pedagogical and Technological Education (ASPETE). In Greece there are twenty-two (22) Universities and fourteen (14) Technological Education Institutions. According to article 16 of the Greek Constitution, higher education is public and exclusively provided by Higher Education Institutions, which are Legal Entities, under the Public Law, enjoying full self-administration and academic freedom, while they are subjected to State supervision and financed by the government. State supervision is carried out by the Ministry of Education, Research and Religious Affairs.

The admission of the students to the above Institutes depends on their performance at nationwide exams taking place in the 3rd grade of the upper secondary school (Lyceum). Entrance to the various Schools of the Universities and Technological Education Institutions depends on the general score obtained by the Lyceum graduates, the number of available places (*numerus clausus*) and on the candidates' ranked preferences among Schools and Departments.

The academic year begins on September 1st, of each year and ends on August 31st, of the following year. Each academic year is divided into two semesters. Each semester includes at least thirteen (13) weeks of teaching and two (2) weeks of examinations. The first semester begins in the second fortnight of September, and the second ends during the second fortnight of June. Throughout the year, there is a total of four weeks of Christmas and Easter holidays.

The majority of the first cycle programmes in the Universities is comprised of 8 semesters (4 years – at least 240 ECTS credits). There are certain first cycle programmes offered by the Universities, whose duration exceeds the 8 semesters. All first cycle University and TEI graduates can apply for admission to second cycle graduate programmes. The postgraduate programmes last one to two years (2/3 or 4 semesters, 60/90 or 120 ECTS credits) and lead to MA or MSc degrees.

In each semester course a number of credits is granted, as set by each Department. The course subjects and contents and the number of hours of classes per week are described in the study programme of every University Department; it also features the University's undergraduate programme leading to a first degree ("PTYCHIO"-ΠΤΥΧΙΟ), which lasts at least four years for most subjects. It lasts five years in the cases of Technical Universities, Departments of Applied Sciences (Agronomy, Forestry, Dentistry, Veterinary Medicine and Pharmacy) and certain Art Departments (e.g. Music Studies) and six years in the Medical Schools.

Students complete their studies and are awarded their degree when they have passed the necessary number of courses stipulated in the study programme and have accumulated the required number of credits.

Students who successfully complete their first cycle studies at Universities are awarded a *PTYCHIO* (first cycle degree). The *Ptychio* leads to employment or further study at the post-graduate level leading to the second cycle degree – *METAPTYCHIAKO DIPLOMA EIDIKEFSIS*, equivalent to the Masters degree – and the third cycle leading to the doctorate degree (PhD), *DIDAKTORIKO DIPLOMA*.

Source: EURYDICE NETWORK: <https://eurydice.eacea.ec.europa.eu/>

Detailed information on the Greek education system can also be found in the *Ministry of Education, Research and Religious Affairs* website: <http://www.minedu.gov.gr/>