



University  
of Cyprus



2017-2019

Postgraduate Prospectus



## Postgraduate Prospectus 2017-2019

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# Rector's Message

In today's competitive environment, graduate studies are considered a necessary extension of a society's tertiary education. The pursuit of graduate studies for purposes of specialization or for further delving into a research subject is an important decision, as it determines the professional career and development as well as the spiritual growth of an individual.

The University of Cyprus, aiming both to offer students a wide variety of graduate study options and to address the needs and expectations of the Cypriot society at large, encourages all departments to add programmes of graduate studies at both Master and Doctoral levels. Specifically, the University currently offers 64 graduate programmes at a Master's level and 45 at a Doctoral level, in 21 departments. At present there are 1.847 students enrolled in programmes of graduate studies.

The University's graduate education is supported by the Graduate School. The UCY Graduate School, based on European specifications and fully attuned to the performance standards of renowned International Research Institutions, has been contributing to the development of the existing postgraduate education, while simultaneously it has strengthened the University's research productivity and its collaboration and fruitful synergies with the world's top Universities.

It is also worth mentioning that the recently established UCY Medical School will be offering postgraduate programmes in the near future.

The current graduate programmes of the University of Cyprus, provide students with the opportunity to either specialize in an area directly related to their first degree or, alternatively, to expand their knowledge in new areas and scientific territories. Of course an inextricable part of graduate education is the acquisition of skills for continuous learning and research.

It is worth mentioning that the University encourages excellence in academic performance through the annual award of an array of scholarships. In parallel, this is enhanced by offering graduate students the opportunity to participate in seminars, conferences, exchanges and other activities. Our graduates are highly successful in the workplace, they can be employed by local enterprises as well as in International Research Centres. A significant number of young researchers, among them UCY graduate

students, are employed in research programmes run by our Academic Institution, which has become one of the leading Research Institutions in Cyprus that is currently employing young scientists.

In addition, UCY's modern infrastructure and laboratories are undoubtedly another incentive for a student to enroll in a postgraduate programme at the University of Cyprus.

The expansion and upgrade of the UCY city of knowledge, along with the completion of the Library-Centre of Information "Stelios Ioannou", the under construction facilities of the Faculty of Engineering and the projects under study such as the Medical School and the Department of Biological Studies, will undoubtedly provide a unique study experience to the undergraduate and postgraduate students wherever they come from. Providing useful services in the campus and with a vivid and active student life amongst the top young Universities under 50 and among the 350-400 top Universities worldwide, according to the "Times Higher Education World University Rankings", the University of Cyprus is engaged to teach graduate students the necessary "know what" and "know how" for thinking innovatively and freely, so as to create for their own benefit and for the common good.

Internalisation and excellence are at the heart of the Organization. The Confucius Institute at UCY, the Instituto Thervantes and the Language Centre, along with many activities organised by entities of the University, promise to enrich the student life creating a unique cross – cultural interaction. We also develop Centre of Excellences aiming to improve our performance in research and innovation and to provide our postgraduate students and potential researchers the opportunity to work, operate and create here, at the University of Cyprus.

Those interested in the University's postgraduate programmes will find in the present publication all the information necessary in order to make an informed decision.

Professor Constantinos Christofides  
Rector

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# General Information

Postgraduate Prospectus 2017-2019

# General Information



*The University of Cyprus was founded in 1989 and besides the fact that it has been functioning for a short period of time, it has been acknowledged both on a local as well as on an international basis, for its teaching level and research that it has shown, as well as for its great contribution to the society.*

*It is worth noting that the University of Cyprus has conquered the 55th place globally as the best newly-established University, according to the Times Higher Education World University Rankings (2016) whilst, it has been placed in the positions 351-400 amongst the best Universities world-wide. It is distinguished for its excellence in the domains of teaching and research with a highly qualified Academic Staff, it offers innovative and well-recognised post-graduate programmes of studies, it offers support and guidance to its students throughout their whole study-period, it has great facilities and it has presented a high percentage*

*considering the professional re-establishment and success of its graduates.*

*In spite of its short history in the educational domain of Cyprus, the University of Cyprus has nominated over 494 Ph.D. titles and 5053 Master Degrees and has managed to become established as the top research as well as educational Institution in Cyprus and to be recognised as the centre of excellence in the Mediterranean region.*

*According to the results of a recent survey of the University of Cyprus, the majority of its graduates (76.1%) are today employed on a full-time basis. In addition, the majority of its graduates have found a job that is relevant to their degree and are applying their studies in the professional field that they are working for. Also, graduates of the University of Cyprus are employed by international companies and significant organisations, receive scholarships from the business world, whilst they are succeeding abroad as Academics at well-known and prestigious Universities.*

## Main Objectives

The main objectives of the University of Cyprus are twofold: the promotion of scholarship and education through teaching and research, and the enhancement of the cultural, social and economic development of Cyprus. In this context, the University believes that education must provide more than the simple accumulation of knowledge. It must also encourage students' active participation in the process of learning and acquisition of those values and life skills necessary for responsible and active involvement in the community.

The University sets high standards for all branches of scholarship. Research is promoted and funded in all departments for its contribution to scholarship in general and for its local and international applications.

## Research Activity

Original research is one of the primary activities of the Academic Staff at the University of Cyprus. Undergraduate and postgraduate students, as well as research assistants may be involved in the research process.

The research programmes of the University of Cyprus cover a wide range of topics in accordance to the already existing specialisations. Some of them are funded by European programmes (such as the HORIZON 2020, ind. ERC and Marie Skłodowska-Curie Actions, ERASMUS+, INTERREG, LIFE, COST, EEA GRANTS) and others by national competitive programmes (for example, the A. G. Leventis Foundation and the Research Promotion Foundation) which fund the majority of external research programmes. For the success of its Academics in research and innovation, the University of Cyprus has been nominated with international awards in various domains and based on international evaluations it is placed in extremely honourable positions world-wide.

The University is a member of a number of international university associations and networks. It also cooperates, through inter-state and inter-university agreements, with universities and research centres in Europe and internationally, for the promotion of science, scholarly research and exchange of information. The University, within the framework of its social contribution, cooperates with various institutions in Cyprus on research projects that are specifically aimed at the needs of local industry and the economy in general.

## Research Centres/Units

A number of research centres and research units operate at the University of Cyprus as independent, non-profit organisations committed on conducting rigorous and

innovative research. The research centres and units aim at developing research at a local, European and international level in their specific scientific fields and attract a large number of research projects funded by research promotion organisations locally and abroad. Research projects that apply directly to Cyprus are considered as particularly important, as they make a significant contribution to Cypriot society, specifically in the sectors of economy, industry and culture.

The following research centres/units operate at the University:

- Archaeological Research Unit
- Centre for Applied Neuroscience
- Centre for Banking and Financial Research
- Centre for Gender Studies
- Economics Research Centre
- International Water Research Institute "NIREAS"
- KIOS Research Centre for Intelligent Systems and Networks
- Molecular Medicine Research Centre
- Oceanography Centre
- Research Centre for Sustainable Energy - FOSS

## The Academic Staff

The Academic Staff is international, comprising of Cypriots, Greek citizens, as well as scholars recruited from abroad.

## Governing Bodies

The University is a public corporate body governed by the Council and the Senate. The Faculties and Departments are administered by Boards; each Faculty is headed by a Dean and each Department is headed by a Chairperson (see relevant Appendix).

## Administrative Bodies

The Administration is composed of the following Services:

- Academic Affairs and Student Welfare Service
- Financial Services
- Human Resources Service
- Information Systems Service
- Information Infrastructure Service
- Library
- International Relations Service
- Research Support Service
- Technical Services

The overall administration of the University is currently the responsibility of the University Council and the Senate.

Administrative Services provide the infrastructure and support required for the implementation of the University Council's decisions and policies. A committed staff promotes and enhances the University's goals for education and research.

The Director of Administration and Finance (Secretary General, Registrar elsewhere), a non-voting member of the University Council and the Senate, is responsible for the organization, coordination and development of the Administrative Services of the University, as well as the implementation of the University's development plans. He advises the Council on matters within his jurisdiction, including financing, budgeting, personnel, external affairs and projects, student affairs, facilities (planning, operations), etc.

### UNIVERSITY BUILDINGS

The University is currently housed at the newly established University Campus, as well as at the former Pedagogical Academy of Cyprus and in other owned or rented buildings. The historic building complex (Central Campus) of the Pedagogical Academy was fully renovated, while retaining its architectural style to meet the requirements of a modern university. On this Campus, two additional buildings have been constructed, that is the New Wing (Building E) and Wing B (Building B). In addition to the main buildings, the University owns or rents other buildings in the same area to cover its housing needs, until the full completion of the new Campus (see relevant Appendix).

The Campus Development Office was established to supervise the project of the New Campus and it is responsible for its management, coordination and development. Architectural competitions ensure that the University secures the best innovative ideas, designs and construction management for the various buildings on the New Campus. Upon completion, the University Campus will accommodate a total of 10.000 students.

To date, the basic infrastructure of the University Campus, the Services and Stores Buildings, the Student Residences (Phase 1a), the Faculty of Pure and Applied Sciences including the Common Teaching Facilities I, the University House "Anastasios G. Leventis", which houses the management and most of the administrative services of the University, the Sports Centre, the Faculty of Economics and Management including the Common Teaching Facilities II, as well as the Social Facilities Centre have been completed.

The Learning Resource Center (LRC) "Stelios Ioannou" is one of the most significant achievements of the developmental plan which was designed by the renowned architect Jean Nouvelle and it is expected to be completed in 2017.

In 2016 the construction of the building of the Faculty of Engineering was initiated, as well as the renovation and the energy and anti-seismic upgrading of the Central Buildings (former Pedagogical Academy of Cyprus).

Meanwhile, the design of the facilities of the Department of Biological Sciences and Common Teaching Facilities III is well underway and the tendering procedure for the construction of the premises of the Biological Sciences and Common Teaching Facilities III is expected to be launched in early 2017.

In addition, the contract for the design of the new Medical School building premises on Campus has been signed.

Furthermore, construction works concerning the renovation of the Shacoleio Educational Centre for Clinical Medicine, where the Medical School will be temporarily accommodated, have been completed. The construction and operation of the "PHAETHON" Photovoltaic Park has been completed. An international competition is expected to be launched concerning the design and construction of "APOLLO" Photovoltaic Park (10MW), so that the University will become a net-zero energy institution depending solely on clean green energy.

### LIBRARY

The University of Cyprus Library aims to create the necessary resources and a reliable information environment that will enhance learning and progress at the University as well as benefit the local society.

The Library is hybrid: it contains print, digital and audiovisual material. The print material is searchable through the online catalogue, while the digital material can be accessed via the Library website: <http://library.ucy.ac.cy/>.

### Collections and Branches

The Library collection is housed in five branches, all of which offer free access. The collection comprises of books, periodicals and reference material (dictionaries, encyclopedias, etc.). The Library provides reading rooms, workstations for access to electronic resources (databases, electronic journals and books, digital collections), lending facilities as well as photocopy machines for reproduction according to the copyright law.

### Main Library

The Main Library is located in the University Campus at 75 Kallipoleos Street. It holds the main open-access collection of books, reference material, and special collections including the following: Browning, Millieux, Diamantis, Dervis and Demetsopoulos.

### Periodicals Library

The Periodicals Library is also located in the University Campus at 75 Kallipoleos Street. Its collection includes 5.788 print journals.

### Archaeology Collection

The Archaeology Collection is housed in the premises of the Archaeological Research Unit, located at 12 Gladstone Street. This non-lendable collection consists of 27.800 books and 479 journals.

### Turkish Studies Collection

The Turkish Studies Collection is located at 10 Halkokondili Street. This collection comprises 27.300 books and 890 print journals. It also includes several special collections, such as those of Halasi-Khun Tibor, Andreas Tieze and Louis Bazin.

### Larnakos Avenue Branch

The Branch is situated at 167 Larnakos Avenue, near the University Campus. The main resources relate to the Pure and Applied Sciences, Engineering Science, Economic and Management Sciences.

### Strovolos Branch

The Strovolos Branch is a closed-access stack space not accessible to the public. Material from this branch is transferred to the Main Library within one working day following receipt of an online application.

### Information Resources

The Library has a wide variety of information resources: print, electronic and audiovisual. Electronic resources are available through the Library's individual subscriptions and through its participation in the Association of Cypriot Academic Libraries.

### Books

The Library collection includes 352.500 books. Books are classified according to the Library of Congress Classification System and are searchable through the Library online public access catalogue.

### Electronic Books

The collection includes 422.418 electronic books and is accessible through the Library website. Access to the collection is possible only within the University network.

### Databases

Users, via the Library website, have access to 186 bibliographic databases, statistical and economic databases, full-text collections, etc. The databases are organized and searched in alphabetical order and by subject. Access to the collection is possible only within the University network.



### Periodicals

#### Print Journals

There are 7157 Greek and foreign print journals, which can be searched through the online public access catalogue.

#### Electronic Journals

Those who are connected to the University network can access 30.000 electronic journals from the Library website.

#### Digital Collections

The digital archive of the Library includes rare print and audiovisual sources. The Library aims to preserve the sources and provide access to all members of the UCY academic community and the public in general.

#### Reference Material Collection

Apart from the electronic reference collections, print resources such as encyclopedias, dictionaries, etc., are also available. Users can search through the online catalogue.

#### Audiovisual Material Collection

The collection is located at the Main Library and includes CDs, DVDs, maps, audio cassettes, microfilm, microfiche, etc., as well as the equipment required for educational and research use of this material.

### Using the Library

#### Regulations for Library Use

All members of the University of Cyprus (students, faculty and administrative staff), as well as external users, are free to use the Library facilities, services and collections.

#### Lending Services

Lending Services manage the availability of Library material: issue, renewal, return, reservations, recalls, handling of circulation-related enquiries, and administration of appropriate penalties for defaulting borrowers.

All UCY members who obtain a UCy ID card have the right to borrow material. External users not affiliated with the University of Cyprus may use the reading areas and open-access collections. They are given borrowing rights upon registration as library members and upon payment of an annual fee.

#### Interlibrary Loan Service

The service undertakes to provide users with books, articles, conference proceedings, etc., that are not available in the library collection and are essential for research. For this purpose the Library has established collaboration with international networks (Interlibrary Loan Network of Hellenic Academic Libraries, the Interlibrary Loan Network of the National Documentation Centre (NDC), SUBITO in Germany, the British Library,



etc.). The Library also assists other libraries in Cyprus and abroad to fulfil their users' information needs.

### Library and Information Services for Blind and Visually Impaired Users

In 2000 an adaptive workstation was installed for blind users, as well as a portable magnification device for visually impaired users. The workstation is equipped with software and devices that enable blind users to use the digital library without the mediation of sighted persons.

The Library works in collaboration with the Academic Staff and the School for the Blind to digitally reproduce all necessary course material for visually impaired students. In 2005 the Library joined the DAISY Book Consortium.

### Research Assistance

#### Information Literacy

The Library holds educational seminars to familiarize users with its collections, resources and services. The seminars aim to help Library patrons develop and enhance their information literacy so that they can benefit fully from the Library's resources.

#### Ask a Librarian

The service is accessible via the Library website and is available to the UCY academic community and external users.

#### AskLive

Patrons can use the AskLive Service to ask brief and specific reference questions related to the collections, resources and services of UCY Library. Replies are sent via real-time chat.

The service is available from Monday to Friday, 08:30-13:30, excluding holidays.

#### By appointment

Users can schedule a research consultation appointment for personal assistance in a variety of areas: to find appropriate print and electronic information on a particular topic; to become familiar with the UCY Library catalogue and collections; to learn how to use library resources and tools, including library catalogues, databases, electronic resources and RefWorks.

The service is available primarily to members of the UCY academic community and, as time permits, to external patrons.

#### Reference Management Tools (RefWoks, etc.)

The Reference Management Tools are accessible through the Library website. They can help users import bibliographic references directly from databases and

websites to their own database, create and organize them in a personal database, standardize citations (MLA, APA, Chicago Manual of Style, Turabian), and create bibliographies for papers, articles, projects, etc.

### European Documentation Centre (EDC)

The European Documentation Centre (EDC) of the University of Cyprus was established in 2012, and is now a member of the European Documentation Centre Network, an EC initiative that was inaugurated in 1960 and currently includes almost 400 EDCs throughout Europe. EDCs aim to ensure that information concerning the activities and policies of the European Union is available to all its citizens.

The EDC of the University of Cyprus is a library service and is located at the Main Library. It is open to members of the academic and the wider community during the Library's working hours.

The EDC collection includes both printed material and electronic resources regarding the European Union and its policies, such as: official publications, annual reports, journals, statistical and economic databases, bibliographies, textbooks and pamphlets, etc. The monographs and print journals have been included in the Library collection and are searchable through the Library's online public access catalogue.

## INFORMATION INFRASTRUCTURE

### Account Services

All Students are entitled to a University Account (username/password), which will facilitate their access to the various UCY systems such as email, labs, student registration system (Banner), Blackboard, remote access service (VPN), UCY wireless network (ucywifi), European Universities wireless network (eduroam), etc.

Accounts can be set up online at: [www.ucy.ac.cy/register/](http://www.ucy.ac.cy/register/). All accounts include the tools needed for their management (password change, forgotten password change through answering predefined questions, forgotten username recovery).

Users will be authenticated once and can access the rest of the resources, authenticated for the remainder of their use of a service.

### Email Communication and Collaboration Services

For every member of the University's community, the University offers a personal electronic mail box and email address, as well as calendar services, contacts, tasks and e-briefcase services, all with sharing capabilities. These services are made available to the community either via

the web tool at <https://webmail.ucy.ac.cy> or via locally installed applications on the users' personal computers. For the faculty and staff, these services are also available on mobile devices.

### Electronic Storage and Tools Services

Individual electronic space is available to students who wish to store data and/or create web pages. Unix tools are also available for teaching purposes.

### Open Access PC Labs

Labs and personal computers as well as printing facilities are available for use by the University community. These are equipped with a wide variety of teaching software and are available for project work and teaching purposes.

### Network Services

The University of Cyprus provides high-speed network access to the internet and other network services.

### Telephony Integrated Services

Integrated Services include telephony, electronic fax, softphone and voice mail. An important telephone service is the Call Center, which provides callers with up-to-date information on the University.

### Wireless Network

Wireless network is available in almost all buildings of the University. It is used to support lectures, conferences, seminars and many different events.

### Residential Halls - Network Services

Network services are available in all rooms of the residential halls.

### Multimedia and Videoconference

Specialized video conference systems are available for communication, tele collaboration and research as well as multimedia systems utilized for teaching and research purposes. Audiovisual material production and management is also provided for e-learning, teaching and research and for audiovisual coverage of events.

### Helpdesk

Phone support is available for all central services of the Information Systems Service. Our goal is to offer efficient and knowledgeable support related to IT systems.

### Remote Access Service (VPN)

This service allows authorized University users secure access to the University's intranet from wherever there

are internet facilities. The user, therefore, has access to all University online resources (e.g., the library's electronic journals).

### Data Security and Protection Service

The University network and core systems are monitored in order to detect anomalies and prevent security risks and malicious behavior. It also investigates all security incidents.

### Antivirus Service

Antivirus protection is provided to all University-connected computers and servers (e.g., labs).

### Perimeter and Internal Network Security

The service goal is to protect personal data, systems and users from network threats. It provides network-level security in the perimeter (Internet access) and for all internal networks. The service provides access lists that limit access to resources from unauthorized networks. Additional web content filtering is applied to protect users from malicious content or malware from the Internet. The service implements University policies regarding network access.

### Antispam Service

All emails directed to University addresses are scanned prior to delivery. This is to ensure that the mail service functions efficiently and to protect users from malicious viruses. This service also helps reduce the number of unsolicited messages (SPAM).

## INFORMATION SYSTEMS SERVICE

### E-Learning

Students who register for courses using the e-learning system are able to access all course material using their personal accounts.

### Educational Services

At the beginning of the academic year the Information Services offers intensive educational seminars on the use of office applications and the e-learning system. Interested students may register online at: [www.ucy.ac.cy/issrequests](http://www.ucy.ac.cy/issrequests).

### E-University

The E-University project aims at providing automated and qualitative services to the University academic community, exterior contracting institutions and the

wider society. These services are focused on the qualitative support of research and teaching through the use of information technology; in other words, to establish a functioning Electronic University (e-University). This requires both the design of new processes and the adoption of a new working mentality.

## INTERNATIONAL RELATIONS

The University of Cyprus is a member in more than 50 University Networks and Associations worldwide, including the European University Association (EUA), the Association of Mediterranean Universities (UNIMED), the Network of Universities from the Capitals of Europe (UNICA), the Association of European Union Universities of Small States (EU<sup>2</sup>S<sup>2</sup>), the International Association of Universities (IAU), the Santander Group (SG), the Euro-Mediterranean University (EMUNI), the European Association of Erasmus Coordinators (EAEC), the European Inter-University Centre for Human Rights and Democratisation and others.

The University has also established close contacts with numerous international organisations, including the European Commission (DG Research and Innovation, and DG Education and Culture), UNESCO, CEPES and the Council of Europe. This international cooperation, enhanced by the collaboration of the Academic Staff with universities and research institutions abroad, positions

the University of Cyprus favourably in the international scholarly community.

The University of Cyprus has signed Bilateral Agreements of Cooperation with more than 110 universities and research institutions in Europe, Australia, Middle East, Asia, USA, Canada and Africa. These Agreements, which can be either inter-university or inter-departmental, authorise and facilitate student and Academic Staff exchanges, joint research projects, conferences and exchange of teaching and research material. Additionally, the University of Cyprus offers 10 joint degree programmes (at Masters' and Ph.D. levels) in collaboration with other European institutions (e.g. the University of Athens - Greece, Poitiers University - France, Wageningen University - Netherlands, etc.).

The University of Cyprus maintains close links with the Cypriots and Greeks of the Diaspora.

Every year an intensive learning and cultural programme for the study of the Greek language is organised at the University of Cyprus, which is intended for young Cypriots from Canada, the USA, Australia, the UK, South Africa and Greece. The Programme is co-organised with NEPOMAK, the Cyprus Youth Board, the School of Greek Language and the Research and International Relations Service of the University of Cyprus; it is financed by the Republic of Cyprus. As a result of the close bonds between the University and the Diaspora, the University



is considered as one of the key institutions that have an active role on issues of the Diaspora.

Throughout the year, the University of Cyprus welcomes delegations from foreign Universities and International Organisations, Embassies and Student Organisations of the Diaspora, as well as the delegation of teachers of the Diaspora from the USA every July.

International relations play a crucial role in the promotion of the University of Cyprus, resulting in its good reputation internationally for the quality of both research and teaching. For this reason, the University has been chosen by the Instituto Cervantes for the establishment on its premises the Aula Cervantes in 2011. The Aula offers Spanish language classes to university students and to the public in general and it also organizes the DELE examinations in collaboration with the Instituto Cervantes.

Another significant development for the University of Cyprus was the establishment of the Confucius Institute on its premises (October 2014), which is the first to be established in Cyprus. The Institute is a non-profit organisation and a joint venture between the Office of Chinese Language Council International (Hanban), the University of Cyprus and the Beijing Institute of Education. Its mission is to work with the public sector, businesses and academia in both Cyprus and China, so as to develop stronger educational, cultural and commercial links between the two countries by offering a large spectrum of programmes, events and other activities on Chinese language, culture, arts and business. The Confucius Institute at the University of Cyprus has organised a large number of educational and cultural events at the UCY, but also at schools and municipalities all over Cyprus and has developed good cooperation with the local authorities. The Confucius Institute at the University of Cyprus offers Chinese language courses to the students and the staff of the University, as well as to the general public (including programmes offered to children, teenagers and adults).

The University of Cyprus has been aiming at attracting more international students. This effort has been successful, as in the last few years there has been an increase in the number of international students at the University, due to the fact that more postgraduate programmes of study are being offered in English. The University of Cyprus has been entitled by the London Times as one of the 200 "most international" universities in the world for the year 2015-2016 due to its constantly growing presence in the international arena.

### LECTURES/CULTURAL ACTIVITIES

The University of Cyprus organizes public lectures and other events with focus on issues of scholarly, scientific, cultural as well as on topics of wider interest. Furthermore it organizes exhibitions, concerts, prize awards and other activities open to the general public, such as the Annual Lecture in memory of Ntinios Leventis, the Conferment Ceremonies of Honorary Doctorates, the Graduation Ceremonies and the UCY Award for Contribution to Society and Culture.

The institution cooperates with many cultural organizations, local authorities, and others to promote culture, both for the benefit of the academic community and the students, as well as for society at large. Examples are the contest of visual arts "Telemachos Kanthos" and the presentation in 2016 of the artistic creation called 'Immigrants' made by students of the High School of St. Luke in Colossi, which projection was made at a European level.

Furthermore, six Free Universities operate in cooperation with municipalities and other parties: The Zenonion Free University in cooperation with Larnaca Municipality, the Free University of Famagusta in Limassol in cooperation with the Municipality of Famagusta, the Ierokipeion Free University in cooperation with the Municipality of Yeroskipou, the Free University of Cypriot Diaspora in London, the Salaminio Free University of Famagusta in cooperation with Diocese of Constantia in Paralimni and the Free University of the Occupied Municipalities of Kerynia.

The University has already made a dynamic impact on the cultural and intellectual life of Cyprus. Its contribution is growing as the programmes of teaching and research are expanded.

### PUBLICATIONS

In order to provide comprehensive information to the public, the students and to prospective students, as well as to the international academic community, the University of Cyprus produces a wide range of publications. These include the Undergraduate and Postgraduate Prospectuses in Greek and English, publications on research activity, the University's Annual Report, information brochures and leaflets and various other publications.

A substantial number of research and information publications are produced by the University's services and other entities of the University, such as the Promotion and Development Sector, faculties, departments, research units, etc.

The Cyprus University's input in the publishing activity was enhanced with the dynamic contribution of the Cyprus University press. Up to this day, the Cyprus University Press has published 29 books, both independently and in cooperation with other publishers. Additionally, the Publications Office reproduces Cyprus University Press' books in e-book format. These publications cover an array of topics including literature, poetry, philosophy, history, etc.

## CULTURAL CENTRE

The Cultural Centre of the University of Cyprus, which operates under the Faculty of Letters and is located at the Axiothea Mansion, in the historic centre of Nicosia, is an internationally acknowledged institution that promotes culture and the arts as part of academic education, celebrates cultural diversity, encourages the involvement of undergraduate and graduate students, as well as alumni of the University, in cultural and artistic activities, cherishes the millennial traditions of Cyprus and the wider Euro-Mediterranean region, and fosters the universal values of European civilization.

With its activities, the Cultural Centre pursues the twofold mission of adding a holistic perspective to traditional academic education, and promoting Euro-Mediterranean culture as a common asset, which has been accumulated through centuries of interaction among nations and ethnic groups in the region. The first part of the mission is realised through the Theatrical Workshop of the

University of Cyprus (THEPAK), which complements academic education and literary research by involving students in the stage presentation of known or less familiar masterpieces of Greek literature that have as a common denominator the idiomatic language of peripheral Hellenism. By applying interactive approaches to literary research and re-enacting poetry, fiction and non-fiction as drama, THEPAK deepens students' knowledge, understanding and appreciation of literature, while contributing to the general promotion and modern reception of valuable works of Greek literature in Cyprus and abroad.

The second part of the Cultural Centre's mission is realised through the annual Cultural Festival of the University of Cyprus, which aims at promoting culture and the arts, and encouraging the creative endeavours of certain established but primarily emerging non-commercial artists from Cyprus, Europe and the broader Mediterranean region, thus enriching the cultural agenda of Cyprus with high-quality performances that enhance the perception of the Euro-Mediterranean region as a common cultural area.

Today the Cultural Centre is an important vehicle for the realization of the University's mission in the area of culture. Through its activities, the University participates actively in the encouragement of culture and artistic expression, while offering its students and the general public the opportunity to broaden their cultural horizons.







# Postgraduate Studies

Postgraduate Prospectus 2017-2019

# Postgraduate Studies



*The University of Cyprus began accepting postgraduate students in the academic year 1997-98. All academic departments of the University offer postgraduate programmes of study at the Master (M.A., M.Sc. and M.Eng.) and Doctor of Philosophy (Ph.D.) level in a wide range of subjects.*

## STUDIES

### Attendance Regulations

The postgraduate programmes of each department are supervised by a three-member Postgraduate Programmes Committee, chaired by a Postgraduate Programmes Coordinator. The Coordinator may be the chairperson of the department or a member of the Academic Staff appointed by the chairperson. The other members of the committee are appointed by the Departmental Board. The Committee is appointed for a two-year term.

For every student in the Postgraduate Programme, the department appoints an academic supervisor, whereas at the research stage of the Ph.D. a research supervisor is appointed. Candidate students select a member of the Academic Staff to act as their research supervisor. The student's choice must be approved by the Postgraduate Programmes Coordinator. The research supervisor guides the students in their research and provides the necessary support and guidance.

The programmes of study of the University of Cyprus are based on the European Credit Transfer and Accumulation System (ECTS). An ECTS normally corresponds to a 25-30 hours workload per semester. Full-time status requires a courseload of 18 ECTS per semester. Students carrying fewer ECTS are considered part-time.

Postgraduate programmes are taught in one of the official languages of the University of Cyprus (Greek and Turkish). However, after a suggestion made by the University's Departments and a decision taken by the Senate, the University is able to:

- a) offer some of the postgraduate programmes, which are already taught in one of the official languages of the University, in other languages as well,
- b) offer a postgraduate programme in other languages except from the official languages of the Republic of Cyprus. The programme is approved by the Council of the University,
- c) offer interdepartmental programmes of studies in any language.

Postgraduate studies are subject to the Postgraduate Studies Regulations. For more information, students must

contact the Graduate School (tel.: 22894044) or visit the website: [www.ucy.ac.cy/graduateschool](http://www.ucy.ac.cy/graduateschool).

### Requirements for M.A., M.Sc. and M.Eng. Degrees

- Attendance for a minimum of three semesters. The maximum period of study is eight academic semesters.
- Successful completion of 90-120 ECTS at the postgraduate level (75 ECTS for professional programmes or more than 120 ECTS if the programme includes practical exercise), in accordance with the provisions of the programme of studies of the relevant department.
- Other criteria set by the department, which may include the submission of a dissertation.
- If a dissertation is rejected the student is allowed to resubmit the dissertation once more. Each Department is responsible for defining resubmission procedures.

### Requirements for a Ph.D. Degree

- Attendance for a minimum of six semesters. The maximum period of study is 16 academic semesters.
- Successful completion of 240 ECTS (60 ECTS at the postgraduate level, in accordance with the provisions of the relevant programme of studies of the department: holders of a master's or equivalent degree may be partially or fully exempted from this requirement. The research part of the programme comprises of 120 ECTS; the remaining ECTS are acquired through the comprehensive examination, the presentation of the dissertation proposal, the writing of the dissertation, etc.).
- Success in a comprehensive examination between the third and the sixth semester of studies.
- The presentation of the proposal can take place two to four semesters after the student has succeeded in the Comprehensive Examination. The committee is proposed by the Research Advisor and the Postgraduate Programmes Committee of the Department. It is chaired by the research advisor and appointed by the Council of the Department.
- Submission of an original dissertation constituting an important contribution to the particular discipline.
- Defence of the dissertation before a five-member examining committee. The committee is appointed by the Council of the Department and is composed of three members of the departmental Academic Staff, one of whom is, in all cases, the student's research supervisor; one member from another university or research centre and a member from another department of the University in a related discipline or from another university or research centre.

- The Chair of the Examining Committee is a member of the Academic Staff of the department, but not the research supervisor.
- If the Examining Committee cannot recommend awarding a degree, the Ph.D. candidate may be allowed to resubmit the dissertation, after due modifications have been made in accordance with the committee's requirements, and repeat the entire process of defence once more.
- The Ph.D. candidate may not submit a dissertation until he/she has completed six semesters from the day of admission to the postgraduate programme and after the successful completion of the comprehensive examination and the required credit units.

### Application Requirements

Application forms should be submitted electronically to the University of Cyprus by the 31st of March for entry in the fall semester and by the 31st of October for entry in the spring semester. Applicants must have a University degree, awarded by an accredited institution in the country where it operates, or a degree evaluated as equivalent to a university degree by the Cyprus Council for the Recognition of Higher Education Qualifications (KYSATS). Individuals who will be awarded a University degree or Graduation certificate, fulfilling the criteria of the application requirements by the end of the week that precedes the registration week, will also be eligible to submit an application form.

The applications should include the following:

1. A Curriculum Vitae
2. Certified copies of University degrees or confirmation of graduation (Admitted candidates will need to submit copies of the certified degrees along with the Registration Form to the University of Cyprus before their registration).
3. Copies of Transcripts for all programmes of study graduate and undergraduate.
4. A brief Personal Statement of goals and research interests (up to 2 pages).
5. The names and contact details of at least two (2) referees (University Professors) familiar with the candidate and his/her academic performance. Candidates are expected to request letters of recommendation to be sent directly to the Coordinator of Postgraduate Studies of the Department. The Department may request additional confidential information from referees. For the Faculty of Engineering and the Department of Psychology, all recommendation letters need to be written on a

special form, which can be found on the website [www.ucy.ac.cy/goto/graduateschool/en-US/HOME.aspx](http://www.ucy.ac.cy/goto/graduateschool/en-US/HOME.aspx). Reference letters should be submitted electronically directly by the University Professors using the online application system.

Some departments require three reference letters to be submitted with the application, so before submitting your application, please visit the web page of the department to verify the number of reference letters required.

The criteria for assessment of candidates are the following: academic background in the appropriate discipline and grade in related bachelor's degrees; a minimum of two or more letters of recommendation, depending on departmental regulations; interview and/or written examination (if stipulated in the department's internal regulations).

### Fees

The fees for postgraduate studies are as follows:

#### a. Master's Degree

- Master Programmes: €5.125\* per programme
- Master in Business Administration (MBA): €10.250
- Master in Petroleum Engineering: €8.000
- Master in Gender Studies: €5.125
- Master in School Counselling and Guidance: €5.125

- Master in Business Economics (Technology, Innovation, Management, Entrepreneurship- TIME MBE): €10.000

In addition to graduate tuition, a clinical practicum fee of €1.000 is charged to the Applied Programme in School Psychology in order to cover expenses for clinical supervision services provided by Registered Professional Psychologists.

#### b. Doctoral Degree

- Ph.D. students, holders of a Master's degree: Total fees €4.000\*
- Ph.D. students, without a Master's degree: Total fees €6.500\*

Each year of study beyond the six years, with a maximum duration of eight years (16 semesters) corresponds to tuition fees of €1.250 per year, €625 per semester. Maximum tuition fees for a Ph.D. degree are €9.000.

In addition to graduate tuition, a clinical practicum fee of €1.000 is charged to the Applied Ph.D. Programme in Clinical Psychology in order to cover expenses for clinical supervision services provided by the Registered Professional Psychologists.

If students wish to suspend their studies, they must follow the relevant procedure of the Postgraduate Studies Regulations. For more information, students must contact the Graduate School (tel.: 22894044) or visit the website at: [www.ucy.ac.cy/graduateschool](http://www.ucy.ac.cy/graduateschool).



Fees must be paid at the Accounts Office prior to registration. The deposit of fees which is paid in advance, is not refundable.

*\* Since the academic year of 2013/14 and until the academic year of 2016/17, there will be a 20% reduction on the tuition fees (self-financing programmes are excluded).*

### Postgraduate Students Funding

Apart from scholarships offered by the State, the University of Cyprus may subsidize a postgraduate student who offers to work as an assistant in covering the needs of his/her department or other departments. Assistantships may involve assisting in teaching, tutorials, help with assignments, lab supervision, grading, etc. They do not apply to the research activity of the student nor to the research activity of the academic and research staff. Monthly earnings can amount to €342 or €683 for a maximum period of ten months.

### STUDENT SERVICES

All students are assigned an Academic Advisor who assists them in academic matters. The Graduate School and the Academic Affairs and Student Welfare Service is responsible for registration, documentation, accommodation, student clubs, information on graduate studies and employment.

### Orientation of New Students

At the beginning of the academic year, the Academic Affairs and Student Welfare Service provides extensive briefing to new students regarding the various departments and programmes of study, the services that are available to students. Students are introduced to the staff of the Academic Affairs and Student Welfare Service. They are also given material relevant to their studies and life at the University of Cyprus. Overseas students and students from Greece are offered a sightseeing tour of Nicosia and a welcome reception.

### Information Office

The Information Office provides information on all student issues including studies, housing, welfare, counselling, career, sports, etc. The information is provided personally, by phone and by e-mail (fm@ucy.ac.cy and fgs@ucy.ac.cy).

### International Support Office

The International Support Office of the Academic Affairs and Student Welfare Service is the newest office at the University of Cyprus and it was established in October 2015.

The Office (<http://www.ucy.ac.cy/internationalsupport>) provides (a) information to the foreign students about studies at the University of Cyprus and (b) support to all non-European student and staff seeking to immigration requirement and visa issues eg entry visa, issuance and renewal of residence permits in Cyprus, medical examinations, etc.

### Careers Office

The Careers Office aims to be the link between the University of Cyprus students and the labour market.

The connection with the labour market is mainly achieved through the organization of various events like the annual Career Day, company presentations and recruiting days, public discussions on current issues, an internships programme and much more. Furthermore, the Careers Office publishes a newsletter called Career and Studies that includes job vacancies for both students and graduates of the University of Cyprus. Graduates can also send their CV which are forwarded to interested employers.

Moreover, the Careers Office organizes throughout the year various seminars and workshops on relevant topics like "Preparing the CV and the Accompanying Letter", "Personal Statement Preparation", "Improving Communication Skills", etc. Last but not least, the Careers Office offers information on postgraduate studies abroad, scholarships and funding sources. It also demonstrates ways of online searching via certain websites, informs students for contact details of universities worldwide and distributes written material that helps students make an informative decision.

### Employment Opportunities

The University has a limited number of positions available for student employment. The Careers Office informs students of temporary positions both within and outside the University. Graduate assistantships are sometimes available, depending on individual department needs.

### Psychological Support, Counseling and Personal Development

The University of Cyprus provides free of charge psychological support and counseling services for all its students through the Mental Health Centre. The primary aim of this service is to contribute to the well-being of students so as to enable them to maximize their experience during the course of their studies and after. Services are offered through individual or group psychotherapy and counselling sessions. Common concerns among students visiting the Centre include anxiety, stress, relationships, mood swings, problems that have to do with their academic life (difficulties in

adjusting to their new way of life etc.), a loss of a beloved person as well as personal or career decisions that need to be made.

The Centre also organizes presentations and workshops on issues related to the students' psychological well-being. It launches prevention and sensitization campaigns on topics related to psychological health and well-being in collaboration with student and youth groups and with stakeholders and organizations that function in the broader community. Such activities can also be planned upon request by student groups or Departments. It also periodically publishes and disseminates relevant informative material in print or through its website.

### Financial Aid

The Social Support Office of the Academic Affairs and Student Welfare Service provides guidance on financial problems. Students with very serious financial problems may be subsidised by the Student Welfare Fund. The Fund is supported financially by the University of Cyprus as well as external contributions and donations.

### Services for Students with Disabilities

Students with disabilities are treated as equals to all other students, whilst every effort is made to offer practical solutions to their specific problems, such as access to University facilities, or assistance on academic issues. Students with disabilities should contact the Social Support Office of the Academic Affairs and Student Welfare Service.

### Student Accommodation and Catering

The University of Cyprus began operating a number of student dormitories (208 bedspaces) on the new campus in September 2003. For information regarding the cost and criteria for campus accommodation/other details, students may contact the Housing Office of the the Academic Affairs and Student Welfare Service.

Due to the limited number of bedspaces available on campus, the Housing Office maintains a list of flats and houses for rent. This list is available on a weekly basis, during the academic semesters. Rent for a one-bedroom flat is approximately €400 - €500 per month, for a two-bedroom flat €480 - €600 per month, and for a three-bedroom flat €600 - €770 per month. The University has many restaurants and canteens that operate on commercial terms but with controlled prices. There are also many small private restaurants located near the University. Student living expenses are estimated at between €700 - €1.000 per month, including rent.

### Accommodation for ERASMUS Students

ERASMUS students attending courses at the University of Cyprus may be accommodated in single rooms in the campus dormitories. ERASMUS students should inform the Housing Office of their accommodation needs by June 15 for the Fall Semester and by November 15 for the Spring Semester.

### Health

Cypriot students may apply to the Ministry of Health, in order to obtain a Medical Card for healthcare in public hospitals. There are conditions/criteria one has to meet for obtaining a Medical Card. Also, under certain conditions, they can be covered as dependents of their parents. Information and application forms regarding Medical Cards for healthcare in public hospitals can be obtained from the website of the Ministry of Health: <http://www.moh.gov.cy/moh/moh.nsf/All/E4423856F240FAA142257909003C89B5?OpenDocument>

The Cyprus University, in order to help students and particularly the less advantaged students on healthcare issues, has created the "Solidarity Fund Neophytos Chandriotis for Healthcare", where all students contribute a small amount each year and enjoy healthcare benefits according to the financial capability of the Fund. Related information can be found on the University website: <http://www.ucy.ac.cy/tamioallilegiis/>

There are two Health Centers at the University: one is located at the University campus on Kallipoleos Avenue and the other is located at the new University campus. The Health Centers, which are supervised by the Medical School, provide information and advice on health issues, and offer first aid and nursing services. Their services are available to all students as well as the wider university community. The Centers cooperate with the Ministry of Health and other government and semi-government services. For more information on the Centers, including contact information and working hours, click onto the link: <http://ucy.ac.cy/medical/el/health-centers>.

## STUDENT LIFE

### Student Union

The Student Union of the University of Cyprus was founded in 1993. Its highest body is the General Assembly and its executive body is the Administrative Council, which has 21 members elected annually by its members. Every student becomes a member of the Student Union upon registration. The Student Union is represented in all Governing Bodies (Council, Senate, Departmental and Faculty Boards).

It has a record of rich and varied activity, guided by the struggle for reunification of Cyprus and its people, peace and democracy, student problems and socio-cultural needs. Activities are directed to both its members and society at large.

## Sports

In order to encourage the University community (students and personnel) to participate in sports activities, a wide variety of activities is offered and the opening hours of the sports facilities have been extended as below:

- Daily, from 07:30 to 22:00 and on Saturdays from 10:00 to 16:00

The Sports Centre recognizes that sports is a broad term and that different people want and expect different things from a sports programme. In response to this, the sports programme has been divided into several broad categories, as follows:

### Recreational Sports

This group of activities is for people who want to improve their overall level of physical fitness. The aim of the University is to make sports an inseparable part of university life.

### Internal Championships

Internal championships are open to the entire University community (undergraduate and postgraduate students, academic and administrative personnel). Emphasis is placed on participation as much as winning. They offer a way to improve overall physical fitness, they develop skills and techniques in a variety of sports, and they are fun.

International regulations apply to all matches/competitions. The University appends its own, stricter regulations related to discipline, since the Sports Centre respects and enforces Olympic principles.

All games are moderated by referees from official sports associations in Cyprus. The Sports Centre is fully responsible for the organization and supervision of all matches/competitions.

### Competitive Sports

This programme is designed for those who take sports more seriously and for those who wish to compete as members of the University teams. Experienced coaches oversee the training of these teams. University teams participate in the following competitions:

- Cyprus Association of University Sports Championships
- International Tournaments in Cyprus and abroad

- Pan-Hellenic Championships (EATE)
- European Championships (EUSA)
- World Championships (FISU)

## Sports and the Community

Sports has very rightly been called the greatest social phenomenon of the 20th century. It is in this spirit that the Sports Centre hopes to make its contribution to Cypriot society at every opportunity available.

### Student Sports Clubs

University of Cyprus offers the following basic Student Sports Clubs and other sports which can serve the philosophy of the programme:

- Squash
- Futsal
- Table Tennis
- Skiing
- Scuba Diving

The above programmes are only open to students; the University community is not eligible to participate.

### Elective Sports Courses

The following elective sports courses to the educational programme were added:

- Volleyball
- Football
- Tennis
- Basketball
- Judo
- Lifelong Fitness
- Squash

### Student Clubs

There are 23 student clubs at the University of Cyprus, involved in educational, cultural, artistic and entertainment activities. Students wishing to form a club must draft a statute, which must then be approved by the University authorities. The "Club Evening" is a yearly event organised by the clubs' coordination committee at which students have the opportunity to learn about the activities of the various clubs from their representatives and can register in the clubs of their preference.

The Student Life Office of the Academic Affairs and Student Welfare Service offers support in the formation and functioning of the clubs. There are also periodic workshops related to administrative and communication matters which aim to develop leadership abilities and improve communication and administrative skills.

### List of Clubs

- Archaeological Club
- Art
- Cyprus Association for Special Education
- Dance
- Environmental
- International Students Club
- Film
- IEEE
- Journalists
- Orthodox and Hellenic Tradition
- Photoclub
- Psychology
- Sailing
- "Terpsichorean" Music Group
- Theatre
- Fencing
- Sociology
- Board Games
- Volunteer
- Greek Language and Foreign Civilizations
- Philosophy
- Handball
- Law

### ERASMUS+ Programme (2014-2020)

ERASMUS+ is a European programme that targets Education, Training, Youth and Sports. This programme, effective as of January 2014, succeeded and replaced a number of European programmes that have been operating at UCY within the framework of 2007-2013: the Lifelong Learning Programme, the Youth in Action Programme, Erasmus Mundus and Tempus Programmes.

The ERASMUS+ Programme supports activities in all areas of Lifelong Learning (primary, secondary, tertiary, adult education, and vocational education and training), as well as youth and sports activities. It has an enhanced focus on student and educator mobility, reform of overlapping programmes and greater cooperation with non-EU countries in the field of education. It is open to all European students, trainees, teachers, trainers and youth. EU grants for education or training abroad will benefit up to 5 million persons during the period 2014-2020.

The ERASMUS+ Programme comprises the following Key Actions:

- a) **Key Action 1:** Learning Mobility for individuals (students, teachers)

- b) **Key Action 2:** Co-operation for innovation and good practices

- c) **Key Action 3:** Support/Assistance for policy reform

For further information on the ERASMUS+ Programme, please contact Emma Zeniou, University Officer in charge of the Mobility Support Office (e-mail: zeniou.emma@ucy.ac.cy, tel.: +357 22894281 and erasmus@ucy.ac.cy).

### Other Student Exchanges

Within the framework of Bilateral Agreements of Cooperation, signed between the University of Cyprus and other institutions, students have the opportunity to study abroad at collaborating universities.

For more information on Exchange Programmes and ECTS, please contact the Mobility Support Office of the International Relations Service (erasmus@ucy.ac.cy).

### UNIVERSITY OF CYPRUS RADIO STATION

UCY Voice, the radio station of the University of Cyprus, was established in order to promote the work of the Institution, to provide information to the members of the university community and to give voice to the students. It broadcasts on the frequency 95,2 fm and from the website at [www.ucyvoice.ucy.ac.cy](http://www.ucyvoice.ucy.ac.cy).

All members of the university community - students, Academics, Alumni and Administrative Staff - can become radio producers at UCY Voice. Everyone is offered the opportunity to learn the techniques of radio production and produce their own shows.

UCY Voice organizes seminars and workshops for the training and education of radio producers on topics such as media ethics, human rights, cultural creativity etc.

UCY Voice broadcasts on a 24-hour basis and its programmes cover the spectrum of information and entertainment.

The University's aim is the development of students' creativity, the cultivation of free speech and thought and the establishment of UCY Voice as a means of free expression.

### SCHOOL OF MODERN GREEK

The School of Modern Greek of the University of Cyprus was established in 1998 to provide courses in Modern Greek as a second/foreign language.

The School's programmes, which also include aspects of Greek culture and civilization, are targeted to adults and non-native speakers of Greek from within or outside the academic community: academic and administrative staff of the University of Cyprus, foreign students, exchange

students but also foreign nationals who live or work in Cyprus and would like to learn Greek or improve their language skills.

The School offers classes in six levels from January 2014, organised into three courses: non-intensive (one academic year, six hours per week), intensive (one semester, fifteen hours per week) and intensive summer course (four weeks, twenty five hours per week). In addition, the School offers Greek language courses tailored to specific needs (e.g. for members of the Cypriot or Greek diaspora), special externally funded programmes (e.g. for asylum seekers), as well as seminars for teachers of Greek as a second/foreign language.

Upon successful completion of their chosen course, which entails regular class attendance and completion of an oral and a written exam, students are awarded a certificate. Language proficiency acquired upon completion of Level 3 (advanced) (B2 from January 2014) of the School's programme is recognised by the Republic of Cyprus for employment purposes in the public administration.

The Greek language courses offered to exchange students account for 9 or 12 ECTS depending on the duration of the programme. All students enrolled in the School of Modern Greek are entitled to use the Library,

the Computer Centre and the sports facilities of the University of Cyprus.

The School of Modern Greek is located at 75, Kallipoleos Avenue, Nicosia. The School of Modern Greek is temporarily located at the University House "Anastasios G. Leventis", 1 Panepistimiou Avenue, Aglantzia, Nicosia.

### **PETRONDAS INSTITUTE OF MODERN GREEK STUDIES**

Since 2010, the Petrondas Institute of Modern Greek Studies has been functioning as a study and research centre of Modern Greek literature. It is situated in 30 Nikodimou Mylona street (3rd floor) in an apartment donated by Christos and Eugenia Petrondas. The objectives of the Institute are the systematic research of Modern Greek literature within both the temporal and geographical spectrum, as well as the study of intellectual activity of the Greek communities in Egypt. Some of the Institute's specific goals concern the international promotion of Greek-Cypriot culture, providing incentives to young scholars for the study of Greek and Greek-Cypriot cultural production, as well as the cooperation with international academic institutions, and the constructive intervention in Cypriot society. Furthermore, a library is also hosted by the Institute, containing archival material. The Institute is open to researchers. Professor Pantelis Voutouris is the Petrondas Institute Director.





# Faculties and Departments

The University consists of eight faculties:

- **The Faculty of Economics and Management**  
with three departments, the Economics Research Centre and the Centre for Banking and Financial Research.
- **The Faculty of Engineering**  
with four departments, the International Water Research Institute "NIREAS", KIOS Research Center for Intelligent Systems and Networks and the Research Centre for Sustainable Energy.
- **The Graduate School**
- **The Faculty of Humanities**  
with three departments and the Language Centre.
- **The Faculty of Letters**  
with three departments, the School of Modern Greek, the Petrondas Institute of Modern Greek Studies and the Archaeological Research Unit.
- **The Medical School**
- **The Faculty of Pure and Applied Sciences**  
with five departments, the Molecular Medicine Research Centre and the Oceanography Centre.
- **The Faculty of Social Sciences and Education**  
with four departments, the Centre for Applied Neuroscience and the Centre for Gender Studies.

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The list of the departments and their related degrees can be found on pages 28-30.

Detailed descriptions of the postgraduate programmes offered by the departments, as well as a brief description of the research interests of the Academic Staff can be found on pages 34-322.

# Postgraduate Programmes

## FACULTY OF ECONOMICS AND MANAGEMENT

DEPARTMENT OF ACCOUNTING AND FINANCE	<ul style="list-style-type: none"> <li>• <b>Finance</b>***</li> <li>• <b>Financial Economics</b> (in English)* (<i>Interdepartmental Programme of AFN-ECO</i>)</li> <li>• <b>MBA</b> (in Greek - part time)* (<i>Interdepartmental Programme of AFN-BPA</i>)</li> <li>• <b>MBA</b> (in English - part time and full time)* (<i>Interdepartmental Programme of AFN-BPA</i>)</li> </ul>
DEPARTMENT OF BUSINESS AND PUBLIC ADMINISTRATION	<ul style="list-style-type: none"> <li>• <b>MBA</b> (in Greek - part time)* (<i>Interdepartmental Programme of AFN-BPA</i>)</li> <li>• <b>MBA</b> (in English - part time and full time)* (<i>Interdepartmental Programme of AFN-BPA</i>)</li> </ul>
DEPARTMENT OF ECONOMICS	<ul style="list-style-type: none"> <li>• <b>Economic Analysis</b> (in English)*</li> <li>• <b>Economics</b>**</li> <li>• <b>Financial Economics</b> (in English)* (<i>Interdepartmental Programme of AFN-ECO</i>)</li> <li>• <b>Monetary and Financial Economics</b>*</li> <li>• <b>Business Economics Technology Innovation Management and Entrepreneurship TIME MBE*</b> (<i>Joint Degree Programme with the University of Crete and Wageningen University</i>)</li> </ul>

## FACULTY OF ENGINEERING

DEPARTMENT OF ARCHITECTURE	<ul style="list-style-type: none"> <li>• <b>Architecture</b>**</li> </ul>
DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING	<ul style="list-style-type: none"> <li>• <b>Civil Engineering</b>***</li> <li>• <b>Environmental Engineering</b>***</li> </ul>
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING	<ul style="list-style-type: none"> <li>• <b>Electrical Engineering</b>***</li> <li>• <b>Computer Engineering</b>***</li> </ul>
DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING	<ul style="list-style-type: none"> <li>• <b>Mechanical and Manufacturing Engineering</b>***</li> <li>• <b>Advanced Materials and Nanotechnology</b>***</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Energy Technologies and Sustainable Design</b>* (<i>Interdepartmental Programme of the Faculty of Engineering</i>)</li> <li>• <b>Petroleum Engineering</b> (in Greek and English)*</li> </ul>

## FACULTY OF HUMANITIES

DEPARTMENT OF ENGLISH STUDIES	<ul style="list-style-type: none"> <li>• <b>English Literature and Comparative Cultural Studies</b>***</li> <li>• <b>Teaching English as a Foreign Language (TEFL)</b>*</li> <li>• <b>Theoretical and Applied Linguistics</b>*</li> <li>• <b>Linguistics</b>**</li> <li>• <b>Translation Studies</b>**</li> </ul>
DEPARTMENT OF FRENCH AND EUROPEAN STUDIES	<ul style="list-style-type: none"> <li>• <b>Didactics of French as a Foreign Language</b>*</li> <li>• <b>European Studies</b>***</li> <li>• <b>French Studies</b>**</li> </ul>
DEPARTMENT OF TURKISH AND MIDDLE EASTERN STUDIES	<ul style="list-style-type: none"> <li>• <b>Turkish Studies</b>***</li> </ul>

# Postgraduate Programmes

FACULTY OF LETTERS	
DEPARTMENT OF BYZANTINE AND MODERN GREEK STUDIES	<ul style="list-style-type: none"> <li>• Modern Greek Philology***</li> <li>• Byzantine Studies and the Latin East*** (<i>Interdepartmental Programme of BMG-HIS</i>)</li> </ul>
DEPARTMENT OF CLASSICS AND PHILOSOPHY	<ul style="list-style-type: none"> <li>• Classical Studies***</li> <li>• European Master in Classical Studies*</li> </ul>
DEPARTMENT OF HISTORY AND ARCHAEOLOGY	<ul style="list-style-type: none"> <li>• Ancient History***</li> <li>• Mediterranean Archaeology: from Prehistory to late Antiquity***</li> <li>• Modern and Contemporary History***</li> <li>• Traditional Culture (16th-20th century)***</li> <li>• Cultural Heritage Management**</li> <li>• Field Archaeology on Land and under the Sea*</li> <li>• Byzantine Studies and the Latin East*** (<i>Interdepartmental Programme of BMG-HIS</i>)</li> </ul>
FACULTY OF PURE AND APPLIED SCIENCES	
DEPARTMENT OF BIOLOGICAL SCIENCES	<ul style="list-style-type: none"> <li>• Biodiversity and Ecology***</li> <li>• Biomedical Sciences***</li> <li>• Molecular Biology and Biomedicine*</li> </ul>
DEPARTMENT OF CHEMISTRY	<ul style="list-style-type: none"> <li>• Chemistry***</li> <li>• Food Chemistry*</li> </ul>
DEPARTMENT OF COMPUTER SCIENCE	<ul style="list-style-type: none"> <li>• Advanced Information Technologies*</li> <li>• Advanced Information Technologies (professional)*</li> <li>• Computer Science*</li> <li>• Internet Computing*</li> <li>• Intelligent Systems*</li> <li>• Design and Development of Computer Games and Interactive Media* (<i>Joint Degree Programme with the Cyprus University of Technology</i>)</li> <li>• Cognitive Systems* (<i>Joint Degree Programme with the Open University of Cyprus</i>)</li> </ul>
DEPARTMENT OF MATHEMATICS AND STATISTICS	<ul style="list-style-type: none"> <li>• Applied Statistics*</li> <li>• Applied Mathematics***</li> <li>• Pure Mathematics***</li> <li>• Statistics**</li> </ul>
DEPARTMENT OF PHYSICS	<ul style="list-style-type: none"> <li>• Physics***</li> <li>• Foundations of Physics*</li> <li>• High Performance Computing for Life Sciences, Engineering and Physics* (<i>Joint Degree Programme with the Cyprus Institute and the University of Wuppertal</i>)</li> </ul>

NOTE: \* Master / \*\* Ph.D. / \*\*\* Master and Ph.D.

# Postgraduate Programmes

## FACULTY OF SOCIAL SCIENCES AND EDUCATION

DEPARTMENT OF EDUCATION	<ul style="list-style-type: none"> <li>• Curriculum Studies and Comparative Education***</li> <li>• Didactics and Methodology of Mathematics* (<i>Joint Degree Programme with the University of Athens</i>)</li> <li>• Educational Administration and Evaluation***</li> <li>• Special and Inclusive Education***</li> <li>• Language Pedagogy*</li> <li>• Learning in Natural Sciences***</li> <li>• Mathematics Education***</li> <li>• Pedagogical Sciences***</li> <li>• Gender Studies*** (<i>In cooperation with the Centre for Gender Studies and the UNESCO Chair</i>)</li> <li>• Language and Education**</li> </ul>
DEPARTMENT OF LAW	<ul style="list-style-type: none"> <li>• Master of Laws*</li> <li>• Law or Criminology**</li> </ul> <p><i>The postgraduate programmes are subject to approval by the relevant University bodies</i></p>
DEPARTMENT OF PSYCHOLOGY	<ul style="list-style-type: none"> <li>• Clinical Psychology**</li> <li>• Psychology**</li> <li>• Applied Programme in School Psychology*</li> <li>• Cognitive Educational Psychology*</li> <li>• Social Developmental Psychology*</li> <li>• School Counselling and Guidance* (<i>Joint Degree Programme with the University of Athens</i>)</li> </ul>
DEPARTMENT OF SOCIAL AND POLITICAL SCIENCES	<ul style="list-style-type: none"> <li>• Social and Political Theory*</li> <li>• Sociology**</li> <li>• Political Science**</li> <li>• Political Science (<i>Specialization in International Relations or European Politics</i>)*</li> <li>• European Master in Human Rights and Democratisation* (<i>In cooperation with 41 European Universities</i>)</li> </ul>

NOTE: \* Master / \*\* Ph.D. / \*\*\* Master and Ph.D.

# Deans/Deputy Deans/Chairpersons

## FACULTY OF ECONOMICS AND MANAGEMENT

*Dean: Andreas Charitou*

*Deputy Dean: Costas Hadjiyiannis*

### CHAIRPERSONS

ACCOUNTING AND FINANCE	Irene Karamanou
BUSINESS AND PUBLIC ADMINISTRATION	Andreas Soteriou
ECONOMICS	Sofronis Clerides

## FACULTY OF LETTERS

*Dean: Chris Schabel*

*Deputy Dean: Stavroula Constantinou*

### CHAIRPERSONS

BYZANTINE AND MODERN GREEK STUDIES	Ioulia Hatzipanayioti-Sagmeister
CLASSICS AND PHILOSOPHY	Antonios Tsakmakis
HISTORY AND ARCHAEOLOGY	George Papasavvas

## FACULTY OF ENGINEERING

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*Deputy Dean: Symeon Christodoulou*

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ELECTRICAL AND COMPUTER ENGINEERING	Georgios Ellinas
MECHANICAL AND MANUFACTURING ENGINEERING	Ioannis Giapintzakis

## MEDICAL SCHOOL

*Interim Dean: Nicholas Pavlidis*

## FACULTY OF PURE AND APPLIED SCIENCES

*Dean: George Papadopoulos*

*Deputy Dean: Alekos Vidras*

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CHEMISTRY	Ioannis Paschalides
COMPUTER SCIENCE	Elpida Keravnou-Papailiou
MATHEMATICS AND STATISTICS	George Kyriazis
PHYSICS	Giorgos Archontis

## GRADUATE SCHOOL

*Dean: Charis R. Theocharis*

*Deputy Dean: Christis Hassapis*

## FACULTY OF HUMANITIES

*Dean: Anastasia Nikolopoulou*

*Deputy Dean: Kleanthis K. Grohmann*

### CHAIRPERSONS

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FRENCH AND EUROPEAN STUDIES	Yiannis E. Ioannou
TURKISH AND MIDDLE EASTERN STUDIES	Thomas Sinclair

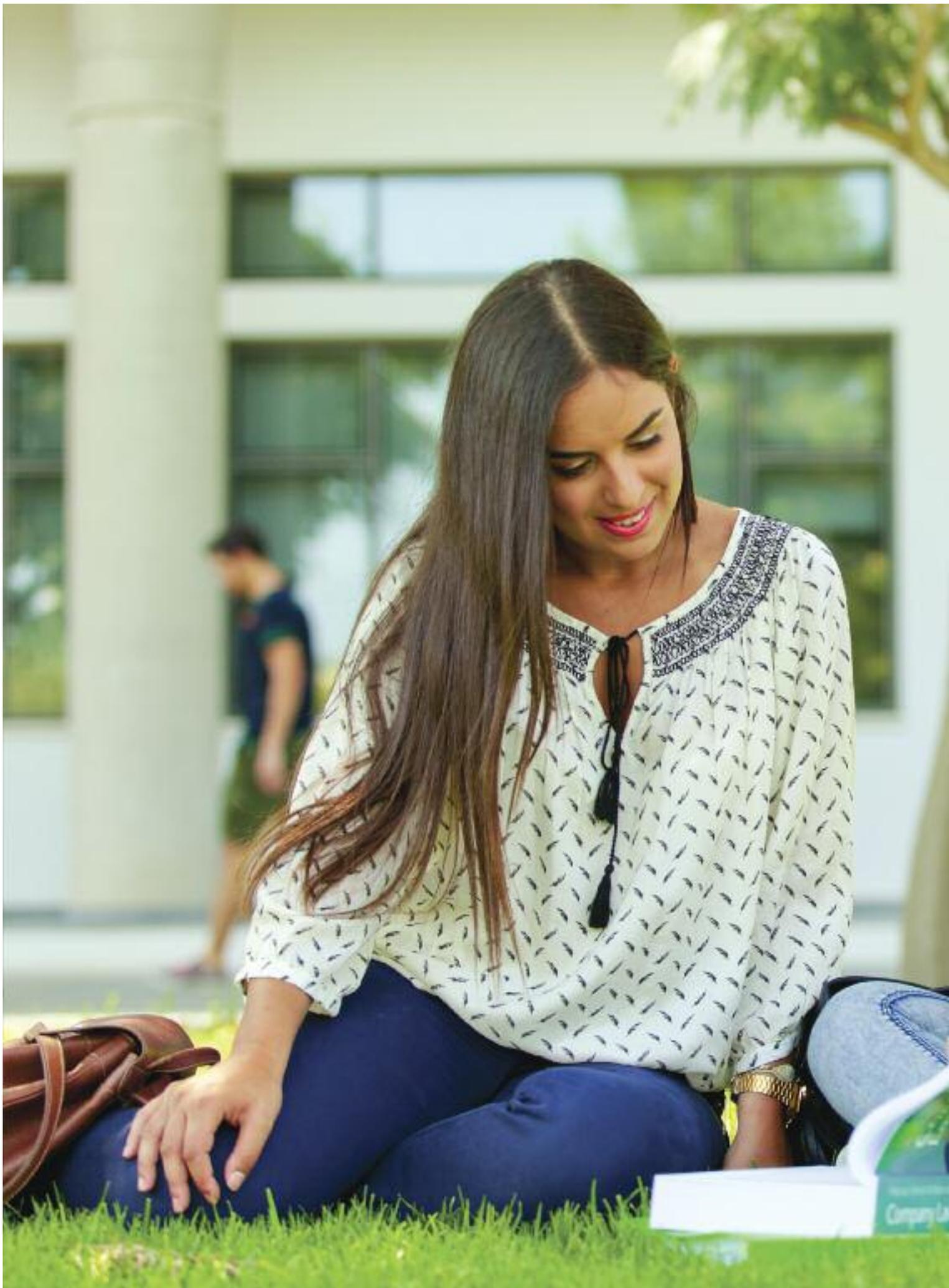
## FACULTY OF SOCIAL SCIENCES AND EDUCATION

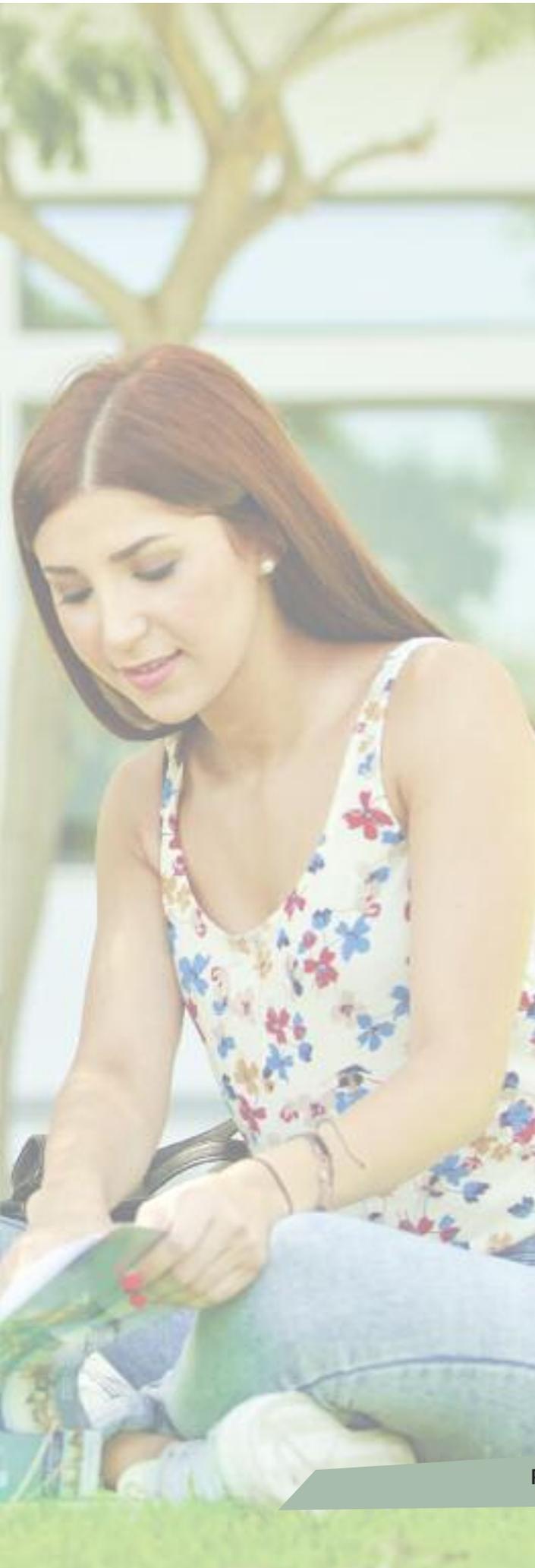
*Dean: Savvas Katsikides*

*Deputy Dean: Helen Phtiaka*

### CHAIRPERSONS

EDUCATION	Leonidas Kyriakides
LAW	Andreas Kapardis
PSYCHOLOGY	Georgia Panayiotou
SOCIAL AND POLITICAL SCIENCES	Stavros Tombazos





# Faculty of Economics and Management

## DEPARTMENTS

Accounting and Finance

Business and Public Administration

Economics

Postgraduate Prospectus 2017-2019

# Department of Accounting and Finance



*The Department of Accounting and Finance offers a comprehensive curriculum, which, on the one hand, provides students with a broad knowledge in the diverse area of business administration and, on the other hand, specialized in-depth knowledge in the disciplines of Accounting and Finance.*

## Introduction

The business environment is rapidly changing. World markets are becoming increasingly global, organizations are merging, restrictions on trading transactions are being lifted and competition is ever more intense. Information technology creates an innovative environment that facilitates the delivery of a new range of services, the direct exchange of information, and the execution of transactions and agreements. In recent decades, developed countries have shifted their business focus from manufacturing to services, while less developed economies are also changing as they attempt to fill in the resulting gap in the manufacturing industry. The recent economic crisis, which has affected the services sector and more severely so the financial services industry, is now rapidly changing the legal, business and economic environments of all affected countries.

In these challenging times, only those managers who can anticipate, understand and effectively adapt to the challenges and demands of today's business environment will be able to lead their organizations to success. Those who fail to act on or respond to these changes will expose their organizations to risk, including their very survival. The ongoing economic crisis of the last decade has revealed the importance of redefining business values and adhering to strict ethical codes in order to regain investor confidence.

In response to the challenging environment facing organizations today, the Department of Accounting and Finance (AFN) offers programmes that will arm its graduate students with the skills and knowledge necessary to advance in their careers and eventually lead their organizations to financial success. The Department offers programmes that lead to Master (M.Sc.) and doctoral (Ph.D.) degrees in Finance. In addition, in cooperation with the Department of Business and Public Administration, the Department offers a Master degree in Business Administration (MBA); and jointly with the Department of Economics a Master degree in Financial Economics. The curricula for the above degree programmes are similar to those offered in top universities in Europe and North America. The Department is currently preparing and will soon offer a new Master degree programme in Accounting.

## Graduate Programmes

### M.Sc. PROGRAMME IN FINANCE

In this one-and-a-half-year programme students are offered an education in finance that is both theoretically anchored and practically oriented. They obtain rigorous skills and applied training in quantitative and empirical methods in finance in the following areas: corporate finance and capital investment analysis; capital and derivative markets and risk management; and investment management and security analysis. The programme, which is outlined below, requires the completion of 90 ECTS.

	ECTS
<b>First Year</b>	
<b>Fall Semester</b>	
AFN 515 Basic Accounting*	2
AFN 521 Financial Theory	7
AFN 522 Investments	7
AFN 525 Options and Futures	7
AFN 526 Financial Analysis and Capital Market Research	7
<b>Spring Semester</b>	
18 ECTS from the following list of courses**	
AFN 520 Managerial Economics or another advanced course	6
AFN 523 Advanced Quantitative Business Methods	6
AFN 528 Advanced Capital Budgeting	6
At least 12 ECTS from the following list of courses:	
AFN 524 Financial Modeling	6
AFN 527 Theory and Methodology in Finance & Accounting	6
AFN 529 Applications of Neural Networks in Business	6
AFN 530 Seminar on Cyprus Economy, Banking & Financial Markets	6
AFN 531 International Financial Management	6
AFN 532 Financial Optimization and Decision Analysis	6
AFN 533 Bank Financial Management	6
AFN 534 Financial Risk Management	6
AFN 535 Seminar on the Theory of Derivatives	6
AFN 536 Business Valuation	6
AFN 537 Theoretical Topics in Finance	6
AFN 538 Applied Topics in Finance	6
Other electives/advanced courses***	
<b>Second Year</b>	
<b>Fall Semester</b>	
Other elective/advanced course***	6
Thesis	24
<i>Notes:</i>	
* Students with no background in accounting must take either AFN 515 Basic Accounting (2 ECTS). AFN 541 Seminar Series (3 ECTS) helps students prepare their thesis.	
** A maximum of one course may be waived depending on the student's prior experience/education.	
*** Elective courses are subject to approval by the Director of Postgraduate Studies. Elective courses are not offered unless at least five students have pre-registered.	

### Research Thesis

During the third semester of the M.Sc. Programme, students must complete a 24 ECTS Thesis. The following regulations and timeframe apply:

- Students select an Academic Thesis Advisor, who must be approved by the Departmental Board before the end of the first academic year, by 15 June.
- By 15 September the Departmental Board will approve a two-member committee for the evaluation of the thesis. The committee head cannot be the student's Academic Advisor; the committee may include one academic member from outside the Department or the University.
- By 15 September, students must submit an extended Thesis Research Proposal (5-10 pages) for the signed approval of the committee.
- By 10 December the thesis must be submitted to the two-member committee head, who will schedule a date for the thesis defense. Under special circumstances the Postgraduate Studies Committee may grant an extension.

Coordinators of M.Sc. Programme in Finance: Spiros Martzoukos and George P. Nishiotis.

### DOCTORAL PROGRAMME

At present, the doctoral programme offers specialization in Finance. Students who wish to combine research interests in Finance with Accounting should consult with the Ph.D. programme coordinators. The following description refers to the programme in Finance.

Students are expected to complete at least 90 ECTS of coursework as part of the doctoral programme. Admittance to doctoral candidacy requires:

- Completion of coursework
- Successful completion of the comprehensive exams
- Preparation of a research study

Doctoral students are expected to complete the above three requirements by the end of the fifth semester. Under special circumstances, the Departmental Board may approve extension to the end of the sixth semester, but the comprehensive exams must be successfully completed by the end of the fifth semester. The Ph.D. degree is granted upon the successful defense of a doctoral dissertation, which must be a new and substantial contribution to the relevant academic literature. The dissertation must be defended orally before a 5-member faculty committee. The minimum time required for the completion of a Ph.D. is three years, and the minimum time required for the completion of the doctoral dissertation is two years.

## Doctoral Student Advising

After a student is admitted to the Ph.D. programme, the Graduate Studies Committee and the directors of the Ph.D. programme provide guidance to the student regarding course requirements and preparation for the comprehensive exams. Each student's programme is individually tailored to meet his/her specific profile and area of concentration. Upon completion of the coursework (or most of it) the student may take the comprehensive exams. Following successful taking of these exams, the student must then select the thesis advisor.

## Coursework

The first two semesters of the doctoral programme are similar to those of the M.Sc. programme. The following courses, representing 28 ECTS, are required: AFN 521 (Financial Theory), AFN 522 (Investments), AFN 525 (Options and Futures), AFN 526 (Financial Analysis and Capital Market Research). The Ph.D. student will also select 38 ECTS in other Master-level courses (from the Department or other departments upon approval) according to his/her interests and research endeavours. It is expected that all students during their first and second year will take courses (24 ECTS) in mathematics, in modeling, in optimization and mathematical programming, in probability theory and statistics (one graduate or two undergraduate courses), in stochastic processes and in econometrics (two econometric theory courses). It is also expected that all students will have workable knowledge of computer programming (e.g., C/C++, SAS).

## Pre-Dissertation Research

During the first summer of studies, students are expected to prepare a research project under the supervision of a faculty advisor. The Department will appoint an advisor suited to the student's research interests. The research project must be written up and must include a report of the original contribution of the student's work. The student must complete the project by the third semester of studies when he/she will submit it for approval to a three-member faculty committee, one member of which is the faculty advisor. The Department Chairperson in consultation with the advisor will appoint the other two committee members. This project may count as fulfilling requirements of another course, or may count as an independent study course. This requirement is waived for students who have completed a Master's thesis.

## Comprehensive Exam

Before entering doctoral candidacy, students must demonstrate adequate knowledge of their main and related fields as well as the relevant academic literature. To this end students must take the comprehensive exam.

This exam (completed at the latest by the end of the sixth semester in the doctoral programme) must cover the field of studies and methodology. In line with international practice, this requirement is fulfilled by 3-hour exams in each of the following topics:

- Financial Theory and Investments
- Financial Analysis and Capital Market Research
- Futures and Options
- Econometrics

The Committee of Postgraduate Studies appoints an Academic Committee (that must be approved by the Department Council) that will administer the written exams. Each topic is graded by two faculty members; and faculty members may grade no more than two topics for any student. Students must pass all the comprehensive exams to continue to doctoral candidacy. Students who fail more than one topic must retake the entire exam, i.e., all four topics. Doctoral students may sit for the exams a maximum of two times. Students who fail one topic only may retake the relevant exam on that topic alone.

The comprehensive exam is graded as Pass or Fail, based on the recommendation of the Academic Committee. Students who (on their comprehensive exams) fail to demonstrate ability for successful doctoral research may be granted a Master's degree following the Department recommendation.

## Doctoral Candidacy and Dissertation Requirements

After formal entrance to doctoral candidacy, students are expected to devote their efforts completely towards their dissertation research, which will initially result in a dissertation proposal in coordination with their Research Advisor. (Students wishing to change Research Advisor after the successful completion of their pre-dissertation research may apply to the Director of Postgraduate Programmes.)

Doctoral students typically remain in candidacy for a period of two additional years. At the start of this period they must submit and defend their Dissertation Proposal, and at the end they submit and defend their completed dissertation before an approved academic committee.

## The Dissertation Proposal

The dissertation proposal must be defended before a three-member academic committee, which is appointed by the Department Chairperson in consultation with the Research Advisor. The Research Advisor will chair the committee. The proposal must contain: a complete and detailed definition of the problem under investigation; a comprehensive synopsis of the relevant literature and the unanswered research questions; an explanation of the

relationship between the existing literature and the thesis topic as well as the expected new contribution. It should also provide evidence that the proposed project is feasible within a reasonable timeframe; this can be demonstrated through partial completion of the proposed research and fulfilment of some intermediate goals.

### The Dissertation

The completed dissertation must be original research that makes a significant contribution to the academic literature. The dissertation will be defended before a five-member academic committee, appointed by the Committee of Postgraduate Studies in consultation with the Research Advisor. Three of the committee members (the Research Advisor included) will be faculty of the Department. Two of the committee members may belong to other departments of the University of Cyprus, and one may belong to the faculty of another university.

### Doctoral Candidates/ Requirements

Students preparing for the comprehensive exam must register for the course AFN 890 (15 ECTS). Doctoral candidates working on their dissertation research must earn at least 120 ECTS covering four research stages (AFN 895, AFN 896, AFN 897, AFN 898 - each course represents 30 ECTS). There are also 15 ECTS partial research stage courses (AFN 881, AFN 882, AFN 883, AFN 884, AFN 885, AFN 886, AFN 887, and AFN 888), should the student wish to take extra courses (beyond the required ones) during the dissertation stages, or take AFN 890 (comprehensive exams) during the first dissertation stage. If, after having taken 120 ECTS of dissertation stages the doctoral dissertation is not finished, the student may enrol in additional writing stages; for this reason there are writing courses credited with 30 ECTS (AFN 791, AFN 792, AFN 793, AFN 794), and writing courses credited with 15 ECTS (AFN 781, AFN 782, AFN 783, AFN 784, AFN 785, AFN 786, AFN 787, AFN 788).

### Suggested Ph.D. Programme

	ECTS
<b>First Year</b>	
<hr/>	
<b>Fall Semester</b>	
Same as for the Master's programme	30
<b>Spring Semester</b>	
Same as for the Master's programme	30
<b>Second Year</b>	
<hr/>	
<b>Fall Semester</b>	
Elective/advanced and methodology courses (from the Department as well as other University departments)	30
<b>Spring Semester</b>	
AFN 890 Comprehensive Exams	15

AFN 881 Research stage	15
<b>Third Year</b>	
<hr/>	
<b>Fall Semester</b>	
AFN 882 Research stage	15
AFN 883 Research stage	15
<b>Spring Semester</b>	
AFN 884 Research stage	15
AFN 885 Research stage	15
<b>Fourth Year</b>	
<hr/>	
<b>Fall Semester</b>	
AFN 886 Research stage	15
AFN 887 Research stage	15
<b>Spring Semester</b>	
AFN 888 Research stage	15
AFN 781 Writing stage	15

Coordinators of Doctoral Programme: Andreas Charitou & Lenos Trigeorgis

### Course Descriptions

#### AFN 515 Basic Accounting (2 ECTS)

The course will show students the uses of accounting in a business environment. It covers topics on the accounting cycle of the enterprise, preparation and presentation of the three basic financial statements. It is graded with Pass/Fail.

#### AFN 516 Use of Software in Finance (3 ECTS)

The course presents the databases and software packages most useful to the financial manager/analyst of a private or public enterprise/organization. The course is directed towards new Master students. It covers databases (like Compustat / Global Vantage, Datastream, CRSP, IDES) and software (like Matlab, SAS). It is graded with Pass/Fail.

#### AFN 520 Managerial Economics (6 ECTS)

The course covers a wide variety of topics to explain and illustrate the wider economic environment of the corporation, examining it from the perspective of the Neoclassical Economic Theory, the Theory of the Firm, and Industrial Organization. Topics include: the Utility Theory, Indifference Curves, Income and Substitution Effects, Demand Functions and Price Elasticity of Demand, Cross Elasticity and Income Elasticity, Production Functions and Cost Functions, Returns to Scale and Returns to Scope, General Equilibrium, Pareto Efficiency, basic principles of Industrial Organization, elements of Game Theory, Trigger Pricing strategies, etc.

#### AFN 521 Financial Theory (7 ECTS)

The course presents the theory underlying financial decisions and corporate policy. It covers discounted cash flow and contemporary methods of Capital Budgeting, Risk and Uncertainty, Mean-Variance Portfolio Choice, Capital Asset Pricing Models and Arbitrage Pricing Theory, Efficient Markets, Capital Structure and Dividend Policy, Basic Option Pricing, Corporate Restructuring and Mergers and Acquisitions.

## **AFN 522 Investments (7 ECTS)**

The course covers the basic principles of investment analysis and valuation, with emphasis on security analysis and portfolio management in a risk-return framework. Security analysis focuses on whether an individual security is correctly valued in the market (i.e., it looks for mispriced securities). Portfolio management deals with efficiently combining securities in a portfolio tailored to the investor's preferences and monitoring/evaluating the portfolio. The course covers both the theory and practical aspects of investments.

## **AFN 523 Advanced Quantitative Business Methods (6 ECTS)**

The course introduces business students to various statistical topics useful in Business, such as Linear Regression, Probit and Logit, Discriminant analysis, Factor analysis, and Structural Equation modeling. In addition to the theoretical coverage of these topics, students work with practical applications in business (Finance, Accounting, Management Science, etc.) and use software like SPSS and SAS. During the course students are required to complete a final project, in which they perform a statistical analysis with real data.

## **AFN 524 Financial Modeling (6 ECTS)**

The course covers financial models for Hedging and Risk Management, Asset Allocation, Multi-period Portfolio Planning, Option Pricing, Swaps, and Bonds and Mortgage-backed Securities. Emphasis is on the use of Statistics, Optimization, and Simulation for the solution of Financial Planning problems, with wide implementation of spreadsheets and high-level modeling languages (like GAMS), and spreadsheets.

## **AFN 525 Options and Futures (7 ECTS)**

The course studies the pricing and use of derivatives such as options and futures contracts. The no-arbitrage principle and its use in pricing futures contracts and option restrictions are explained first, followed by the binomial-tree approach and the Black-Scholes model. Various extensions and applications are discussed, including (1) pricing options on stock indices, currencies and futures; (2) risk management; (3) pricing options embedded in corporate securities (e.g., equity, callable bonds, warrants and convertibles; (4) fixed-income (interest-rate) derivatives.

## **AFN 526 Financial Analysis and Capital Market Research (7 ECTS)**

The course provides a comprehensive analysis of financial information as an aid to decision making (e.g., in investing, lending and managerial decisions). The course covers (1) business analysis tools such as Business Strategy Analysis, Accounting and Financial Analysis, Prospective Analysis (forecasting and valuation); (2) applications in credit analysis and bankruptcy prediction, security analysis, corporate financing decisions, such as Dividend Policy, Capital Structure, M&A and Management Communication; (3) International Financial Analysis and contemporary issues in Financial Analysis.

## **AFN 527 Theory and Methodology in Finance and Accounting (6 ECTS)**

The course covers contemporary methodologies for empirical research in Finance and Accounting. Through the study and analysis of contemporary research, it highlights the role of financial and other information in setting equity prices. In addition, it covers topics such as: the role of Financial Analysts in Equity Markets, the relation between Accounting Rules and Equity

Markets, the effect of Income Manipulation on Investors and Managers, and the Measurement of Risk.

## **AFN 528 Advanced Methods of Capital Budgeting (6 ECTS)**

The course reviews traditional methods of capital budgeting and their deficiencies, and introduces modern investment valuation thinking and tools involving flexibility and optimal exercise of options under uncertainty. It places emphasis on the use of the real options methodology in both operating and strategic decisions, applied through the use of binomial trees and Monte Carlo simulation in the context of real-life problems and cases.

## **AFN 529 Applications of Neural Networks to Business (6 ECTS)**

This course offers a broad treatment of the subject of Artificial Neural Networks. The material includes: Introduction to neural networks, the Backpropagation training algorithm and its variants, the RBF training algorithm, probabilistic neural networks, Kohonen's SOFM, LVQ's training algorithms, support vector machines. The wide applicability of the material developed in this course is demonstrated through applications to a number of problems drawn from various business areas. Students put the theory into practice through a research project in Finance or Accounting.

## **AFN 530 Seminar on the Economy, the Banking System, and the Financial Markets of Cyprus (6 ECTS)**

In the seminar a wide range of topics related to the Economy, the Banking System, and the Financial Markets of Cyprus are analyzed from the perspective of two significant events currently under development: the Globalization of Economies and International Markets, and the accession of Cyprus to the European Union. These developments prescribe the prospects and challenges of the economy and the financial system of Cyprus.

## **AFN 532 Financial Optimization and Decision Analysis (6 ECTS)**

The course covers topics of Mathematical Programming and Financial Optimization and Decision Theory that constitute basic research tools in Finance and Economics. From the perspective of theory and model building, it covers Linear Programming, Duality Theory, Unconstrained and Constrained Non-linear Programming, Stochastic Programming, and Large-scale Programming. There is particular emphasis on the use of computers for problem solving.

## **AFN 533 Bank Financial Management (6 ECTS)**

The continuously changing environment – increased competition, liberalization, globalization of markets, new capital market products – demands that banks revise their traditional financial management. The course presents financial principles, strategies, and techniques that help banks succeed in this financial environment. After examination of the existing banking environment, bank structure and problems, the course focuses on the measurement and management of interest rate, credit, and currency risks. Students will learn about the measurement and evaluation of bank performance, basic instruments and techniques, asset/liability management, new financial strategies, and integrated decisions for bank management.

## **AFN 534 Financial Risk Management (6 ECTS)**

This course illustrates the use of financial theory and applied statistics for measuring and managing the risks currently facing multinational corporations and financial institutions. It will discuss: Basel I & II, volatility and value-at-risk, coherent risk measures; simulation of Profit & Loss distributions using Gaussian

assumption for equity portfolios and bonds, market risk capital adequacy, linear and non-linear risks; time-varying volatility of market-risk factors, EWMA and GARCH process; extreme financial risks with non-Gaussian distributions, extreme value models; credit risk and rating systems; probability of default, recovery rates, credit risk capital adequacy; methods of Credit Metrics (JP Morgan), distance to default - KMV (Moody's), actuarial approach (Credit Suisse, First Boston); types of operational risk, measurements using Loss Distribution Approach, capital adequacy; mitigating and managing financial risks, capital for unexpected losses, risk transfer/hedging.

#### **AFN 535 Seminar on Derivatives (6 ECTS)**

The course covers advanced topics in Financial Theory, emphasizing contemporary theories of contingent claims pricing, continuous time finance, alternative stochastic processes (geometric Brownian motion, Poisson processes and jump-diffusion, stochastic volatility, stochastic interest rates); numerical methods for option pricing problems with high dimensionality, alternative stochastic process assumptions, and path-dependencies; pricing options on foreign assets with currency risk, Guaranteed Investment Contracts with embedded options; option replication without and with transaction costs.

#### **AFN 537 Theoretical Topics in Finance (6 ECTS)**

The course covers advanced theoretical topics in Financial Theory. The specific topic will depend on the interests of the instructor.

#### **AFN 538 Applied Topics in Finance (6 ECTS)**

The course covers special and applied topics in Finance. The specific topic will depend on the interests of the instructor.

#### **AFN 541-6 Seminar Series (3 ECTS)**

This seminar series introduces graduate students to contemporary research topics. It requires students' attendance and active participation in presentations of original research by visiting researchers and presentations of critique and analysis of selected research. It is graded with Pass/Fail.

## **JOINT DEGREE PROGRAMME**

### **Master in Business Administration, MBA**

The Accounting and Finance and the Business and Public Administration departments jointly offer a Master in Business Administration (MBA) programme on both a full- and part-time basis. The aim of the programme is to develop students' management skills and decision-making abilities in a rapidly changing business environment.

### **THE PROFESSIONAL MBA PROGRAMME**

The Professional MBA Programme is a two-year, evening programme that meets the needs of professionals who are currently working and who wish to enhance their leadership abilities and effectiveness in their organizations, as well as acquire the tools for further professional development.

To qualify for the MBA degree, students must complete a total of 90 ECTS. A total of 53 ECTS constitute the core

curriculum, the intent of which is to introduce students to the fundamentals of the business disciplines. Students can customize their programme according to their professional needs and interests through elective courses (maximum 16 ECTS). A list of courses is available from the Department. Finally, the Applied Business Project (21 ECTS), which takes place during the last three terms, focuses on a real-life case within a corporate or government environment, and brings together teams of students with sponsor companies.

### **The Professional MBA Programme Structure (part-time study)**

	ECTS
<b>First Year</b>	
<b>Preparation Period</b> (September)	
MBA 502 Introduction to Accounting*	1
MBA 503 Business Mathematics and Statistics*	1
<b>First Term</b>	
<b>September - October</b>	
MBA 531 Business Economics	3.5
MBA 561 Leading and Managing Organisations	4
<b>Second Term</b>	
<b>November - December</b>	
MBA 511 Financial Accounting and Reporting	4
MBA 544 Business Statistics	3.5
<b>Third Term</b>	
<b>January - February</b>	
MBA 521 Financial Management	4
MBA 542 Managing Operations	3.5
<b>Fourth Term</b>	
<b>March - April</b>	
MBA 541 Methods for Management Decisions	3.5
MBA 551 Marketing Management	4
<b>Fifth Term</b>	
<b>May - June</b>	
MBA 522 Capital Markets and Investments	4
MBA 543 Managing Information Systems	2
<b>Sixth Term</b>	
<b>September - October</b>	
MBA 512 Managerial Accounting	3.5
MBA 564 Strategic Management	3.5
<b>Seventh Term</b>	
<b>November - December</b>	
MBA 562 Corporate Social Responsibility and Ethics	2
MBA 566 Leadership	4

<b>Eighth Term</b>	
<b>January - February</b>	
MBA 563 Entrepreneurship	4
<b>Ninth Term</b>	
<b>March - April</b>	
Elective Courses	8
<b>Tenth-Eleventh Term</b>	
<b>May - August</b>	
MBA 590 Applied Business Project	21
Elective Courses	8

### The MBA Programme Structure (Full-time study)

	ECTS
<b>Preparation Period</b>	
<b>September</b>	
MBA 502 Introduction to Accounting*	1
MBA 503 Business Mathematics and Statistics*	1
<b>First Term</b>	
<b>September-October</b>	
MBA 531 Business Economics	3.5
MBA 551 Marketing Management	4
MBA 561 Leading and Managing Organisations	4
MBA 574 Principles of Communication	2
<b>Second Term</b>	
<b>November-December</b>	
MBA 511 Financial Accounting and Reporting for Management Decisions	4
MBA 544 Business Statistics	3.5
MBA 562 Corporate Social Responsibility and Ethics	2
MBA 566 Leadership	4
<b>Third Term</b>	
<b>January-February</b>	
MBA 512 Managerial Accounting	3.5
MBA 521 Financial Management	4
MBA 542 Managing Operations	3.5
MBA 563 Entrepreneurship	4
<b>Fourth Term</b>	
<b>March-April</b>	
MBA 541 Methods for Management Decisions	3.5
MBA 564 Strategic Management	3.5
Elective Courses	6
<b>Fifth-Sixth Term</b>	
<b>May-August</b>	
MBA 522 Capital Markets and Investments	4
MBA 543 Managing Information Systems	2
MBA 590 Applied Business Project	21
Elective Courses	8
<b>Total</b>	<b>90</b>

\* Note: Optional courses of 1 ECTS which are over and above the 90 ECTS required for programme completion.

### Elective Courses for the MBA and Professional MBA Programmes

	ECTS
<b>Accounting</b>	
MBA 513 Financial Analysis and Capital Markets	4
MBA 514 Business Law	2
MBA 515 Taxation	2
<b>Finance</b>	
MBA 516 Corporate Governance	2
MBA 523 Options	4
MBA 524 Bank Financial Management	4
MBA 525 International Finance	4
MBA 526 Strategic Decisions in an Uncertain Environment	4
MBA 527 Risk Management	4
MBA 529 Real Estate Investments and Management	4
MBA 532 The European Economy	2
MBA 533 Current Issues in Finance and Global Economics	2
<b>Management</b>	
MBA 535 The European Crisis and its Management	2
MBA 565 Human Resource Management	4
MBA 567 Managing Change	2
MBA 568 Negotiations	2
MBA 569 Crisis Management	2
MBA 570 Creativity and Innovation	2
MBA 571 Innovation Strategy	2
MBA 572 Business Communication	2
MBA 573 Emotional Intelligence	2
MBA 575 Recent Topics in Public Administration	2
MBA 576 Managing Diversity	2
MBA 577 Multi-cultural Management	2
MBA 578 Energy Business Management	2
<b>Marketing</b>	
MBA 552 Marketing Research	4
MBA 553 Strategic Marketing	4
MBA 554 International Marketing	2
MBA 555 Marketing Communications	4
MBA 556 New Product Development	2
MBA 557 Sales Management	2
MBA 558 Consumer Behavior	2
MBA 559 High-Tech Marketing	2
<b>Operations</b>	
MBA 545 Service Management	4
MBA 546 Supply Chain Management	4
MBA 547 Quality Management	4
MBA 548 Principles of E-Commerce	2
MBA 549 E-Commerce	4

### THE MBA PROGRAMME (Full-time study)

The duration of the programme is twelve months and to qualify for the MBA degree, students must complete a total of at least 90 ECTS.

Courses equivalent to 55 ECTS constitute the core curriculum, which will introduce students to all areas of business administration. The courses also enable students to improve their analytical thinking and decision-making skills. The core courses are offered during the first four terms.

Programme participants must choose elective courses equivalent to 14 ECTS from a list of courses available from the Department. The elective courses cover all fields of business administration and are offered during terms four to six.

The Applied Business Project (21 ECTS) takes place during the last three terms, and enables students to apply the knowledge acquired during the programme to an organization. The Applied Business Project reflects one of the central themes of the programme, which is teamwork. The complexity of the business environment forces managers to seek the integration of knowledge through collaboration.

### Joint Programme M.Sc. in Financial Economics

This new programme is offered jointly by the Department of Economics and the Department of Business and Public Administration. The programme is undertaken through the Faculty of Economics and Management, home of the Centre for Banking and Financial Research, the Economics Research Centre, and the Real Options Research Laboratory. The new programme builds on the significant strengths and research expertise of the academic members of the Department of Economics and those of the Department of Business, as well as their experience in already offering several successful quality graduate programmes in Economics and in Finance.

The programme is geared to students with a strong background in economics and/or quantitative methods. The aim of the programme is to produce capable young men and women who will use advanced analytical techniques of modern finance and economics in industry and/or conduct quality research. Graduates may follow career paths in banking and financial institutions, the insurance sector, central banking, consulting firms or corporations that demand high analytical financial, economics and econometrics skills. The programme is also appropriate for students who wish to continue their graduate studies into Ph.D. Programmes in Economics or in Finance. Depending on academic performance in the first semester of study, some financial support can usually

be awarded to excellent students in the second and third semesters of study.

The language of instruction is English as the programme expects to attract students from European Union countries as well as from other countries in the Mediterranean, the Middle East and the Far East. Similar graduate programmes are available in both departments in Greek.

The programme can be completed in three academic semesters of full-time study. The course requirements consist of ten carefully selected, rigorous theoretical and methodological courses and a 15.5 ECTS thesis (90 ECTS in total). In addition, students may be asked to attend a few short courses in basic accounting or quantitative methods depending on their background (these short courses will be offered just before the start of the first academic semester). The courses and their suggested sequencing are described below.

### M.Sc. IN FINANCIAL ECONOMICS

#### Preliminary courses: Basic Accounting, Quantitative Methods

	ECTS
<b>First Semester</b>	
ECO 601 Microeconomic Analysis I	7.5
ECO 603 Statistics and Econometrics I	7.5
AFN 521 Financial Theory	7
AFN 525 Options and Futures	7
<b>Second Semester</b>	
ECO 653 Statistics and Econometrics II	7.5
ECO 680 Applied Financial Econometrics	7.5
AFN 526 Financial Analysis and Capital Market Research	7
AFN 528 Advanced Capital Budgeting	6
AFN 542 Seminar Series	3
<b>Third Semester</b>	
ECO 602 Macroeconomic Analysis I	7.5
AFN 522 Investments	7
ECO or PBA Master's Thesis	15.5

### Course Descriptions

#### ECO 601 Microeconomic Analysis I (7.5 ECTS)

The course provides a review of the classic theories of consumer and producer behaviour and describes basic market structures and the analysis of factor markets. It then lays out the basic principles of game theory under conditions of both complete and incomplete information. These tools are used for the analysis of several topics in modern microeconomic theory, such as bargaining auctions, moral hazard and adverse selection.

## **ECO 603 Statistics and Econometrics I (7.5 ECTS)**

The course provides an overview of probability theory, random samples, regression analysis, prediction, and related notions. It covers the linear regression model: estimation, hypothesis testing and misspecification. In conjunction with ECON 653 it treats generalized linear regression, time-series, dynamic linear and nonlinear regressions, multivariate regression systems, simultaneous-equations, generalized method of moments, limited dependent variables and panel data analysis.

## **AFN 521 Financial Theory (7 ECTS)**

The course presents the theory of financial decisions and corporate policy. It covers discounted cash flow and contemporary methods of capital budgeting, risk and uncertainty, mean-variance portfolio choice, capital asset pricing models and arbitrage pricing theory, efficient markets, capital structure and dividend policy, basic option pricing, corporate restructuring and mergers and acquisitions.

## **AFN 525 Options and Futures (7 ECTS)**

The course studies the pricing and use of derivatives such as options and futures contracts. The no-arbitrage principle and its use in pricing futures contracts and option restrictions are outlined first, followed by the binomial-tree approach and the Black-Scholes model. Various extensions and applications are described, including: pricing options on stock indices, currencies and futures; risk management; pricing options embedded in corporate securities (e.g., equity, callable bonds, warrants and convertibles; fixed-income (interest-rate) derivatives.

## **ECO 653 Statistics and Econometrics II (7.5 ECTS)**

This follow-on course covers elements of matrix algebra and further discussion of the linear regression model, generalized linear regression, time-series, heteroskedasticity and autocorrelation, dynamic linear regression, nonlinear regression, multivariate regression systems, the simultaneous-equation model, generalized method of moments, limited dependent variables, and panel data analysis.

## **ECO 680 Applied Financial Econometrics (7.5 ECTS)**

The course provides an overview of various methodological tools and applications in financial econometrics. It covers financial time series and their characteristics, conditional heteroskedastic models, nonlinear and continuous-time models and their applications. It also deals with risk management, extreme values, quantile estimation and value at risk; estimation and tests of asset pricing models and multivariate volatility models; and high-frequency data analysis and market microstructure.

## **AFN 526 Financial Analysis and Capital Market Research (7 ECTS)**

The course provides a comprehensive analysis of financial information as an aid to decision making (e.g., in investing, lending and managerial decisions). It covers the following areas: business analysis tools such as business strategy analysis, accounting and financial analysis, prospective analysis (forecasting and valuation); applications in credit analysis and bankruptcy prediction, security analysis, corporate financing decisions, such as dividend policy, capital structure, M&A and management communication; international financial analysis and contemporary issues in financial analysis.

## **AFN 528 Advanced Methods of Capital Budgeting (6 ECTS)**

The course reviews traditional methods of capital budgeting and their deficiencies and introduces modern investment valuation thinking and tools involving flexibility and optimal exercise of options under uncertainty. It places emphasis on the use of the real options methodology in both operating and strategic decisions, applied through the use of binomial trees and Monte Carlo simulation in the context of real-life problems and cases.

## **ECO 602 Macroeconomic Analysis I (7.5 ECTS)**

The course reviews the traditional “workhorse” models of macroeconomic analysis and surveys recent developments in the field. Models of income, interest rate, price level, exchange rate, and balance of payments surplus/deficit determination are reviewed. New theoretical developments involving the microeconomic foundations of macro models, inflation and unemployment, growth and real business cycles are also considered.

## **AFN 522 Investments (7 ECTS)**

The course covers the basic principles of investment analysis and valuation, with emphasis on security analysis and portfolio management in a risk-return framework. Security analysis focuses on whether an individual security is correctly valued in the market (i.e., it looks for mispriced securities). Portfolio management deals with efficiently combining securities into a portfolio tailored to the investor's preferences and monitoring/evaluating the portfolio. The course covers both the theory and practical aspects of investments.

## **AFN 542 Seminar Series (3 ECTS)**

This seminar series introduces graduate students to contemporary research topics. It requires full-time attendance and active participation in presentations of original research by visiting researchers and presentations of critique and analysis of selected research. It is graded Pass/Fail.

Coordinators of the M.Sc. in Financial Economics: Elena Andreou and George Nishiotsis

## **Research Interests of the Academic Staff**

### • **Andreas Charitou, Professor**

Capital Markets Research, International Financial Analysis, Corporate Finance & investments, Credit Analysis, Governance & executive compensation.

### • **Yiannis Dendramis, Lecturer**

Financial Econometrics, Nonlinear Models on Asset Pricing, Volatility Modelling.

### • **Irene Karamanou, Associate Professor**

The relation between capital markets and firm valuation with Accounting disclosures, investment banking, financial analysts, institutional ownership and regulation.

### • **Spyros Martzoukos, Associate Professor**

Real Options, R&D, Capital Structure, Portfolio Theory, Financial Engineering.

• **Andreas Milidonis, Assistant Professor**

Credit Risk, Executive Compensation, Public Policy and Regulatory Issues, Catastrophe Risk, Mortality Risk.

• **George Nishiotis, Associate Professor**

Empirical Asset Pricing, International Finance, Information Disclosure, Corporate Governance, Emerging Markets.

• **Lenos Trigeorgis, Professor**

Capital Budgeting/Real Options, Options and Futures, Volatility and Capital Structure, Innovation, Strategy and Competitiveness.

• **Nikos Vafeas, Professor**

Corporate Governance, Corporate Social Responsibility, Executive Remuneration, Executive Replacement.

• **Stavros Zenios, Professor**

Financial Risk Management, the Eurozone Banking Crisis Social and Financial Reflexivity, Leadership Theory and Practice under Uncertainty, Efficiency of State Owned Enterprises.

## Contact Details

### Department Secretariat

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# Department of Business and Public Administration

*The Department of Business and Public Administration (BPA) aims to produce managers through its MBA programme and researchers through its Ph.D. programme who will lead their organizations through these exciting times and conduct cutting edge research. It offers an integrated programme of postgraduate studies that emphasizes both breadth of understanding of the business environment, as well as depth in several functional areas. Based on the latest curricula of prominent European and North American academic institutions, it integrates state of the art management principles with sensitivity to the realities and priorities of the local and regional industries.*

*The modern business environment is being transformed. Markets are becoming global and intensely competitive, organisations are merging, and regulatory barriers are falling. Information technology has created a virtual business environment where services are rendered, transactions take place, and deals are concluded more efficiently. Past decades have witnessed the transformation of industrialized nations from manufacturers of goods to producers of services. Many advanced developing countries are closely following this lead, while others are gradually filling the gap in the manufacturing processes.*

*The only constant in today's environment is change itself. Astute managers, who anticipate, comprehend, adapt and even proact in a timely fashion in this dynamic environment, will lead their enterprises to success. Those who are unable to cope with change face real threats to the survival of their organisation. The adage "lead, follow or get out of the way" has become particularly relevant for the managers of the twenty-first century.*

## Goals of the Department

The Department's goal is to provide local and regional leadership in all aspects of Business and Public Administration and to achieve international recognition as a centre of excellence in business education and research.

## Research Mission

The faculty of the Department is committed to state-of-the-art research of local and international impact and maintains close contacts with researchers at prominent universities in Europe, North America, and the region. Projects by Department faculty have attracted over two million Euros from external sources including Digital Equipment International, the Bank of Cyprus and other Cypriot banks, the Mediterranean Campus Programme of the European Union, other European Union Agencies and the Cyprus Research Promotion Foundation.

The research interests of the faculty are diverse, and are as follows.

Research in Management covers various conceptual, methodological, and empirical issues related to the management of modern-day organizations. These issues include traditional areas such as strategy and human resource management and entrepreneurship, as well as more contemporary areas such as feminist analyses, knowledge-based perspectives of organizations and industrial ecology.

Specifically, members of the Department produce state-of-the-art research in the following areas:

- Strategy, Stakeholders and Value Co-Creation
- Environmental Issues in Business, CSR, Social Networks
- Industrial Ecology and Regional Development
- Strategic Human Resource Management in a Comparative International Context
- Flexible Work Arrangements, Work-Life Balance
- Intergenerational Transitions in Family Firms
- Entrepreneurship, University-Industry Technology Transfer, University Spinouts, Behavioral Genetics, Innovation Management

- Production of Discourse in/by Organizations, Organizational Space and Symbolism, Emotionality of Work
- Representation of Management and Organizations in Popular Culture
- Feminist Analysis of Organizations, Gender in the Workplace
- Knowledge-based Perspectives on Organizations
- Management of Organizational Change and Social Reforms
- Practical Reason - the Epistemology of Practice
- Phenomenological-neoaristotelian Perspectives on Organizations and Organization Theory, Meta-theoretical Issues in Organization Theory and Management Studies

Research in **Management Science** and Operations Management has both methodological and problem-oriented goals. On the methodological side, projects focus on the development of large-scale computing techniques for the solution of problems in optimization, production and operations planning, logistics and distribution. Particular emphasis is placed on the solution of models for financial planning under uncertainty. Novel computing technologies, such as parallel and supercomputer architectures, are used for the solution of business problems. Research is also conducted in such areas as service quality, efficiency and effectiveness of financial and banking institutions, and applications of neural networks to business problems.

Research in **Marketing** covers various conceptual, methodological, and empirical issues revolving around the internationalization process of the firm, export stimulation and obstruction, organizational and managerial effects on the firm's export behavior, the exporter-importer working relationship, distribution channels behavior, philosophical and epistemological aspects of organizational theory, post-rationalist approaches to organization design, the management of social reforms, interrelationships among behavioral constructs, environmental management, diffusion of innovations, family enterprises, and human resources development.

### Study and Research Facilities for Students

Students have access to the computer laboratories of the University for their homework assignments and research projects. A modern microcomputer laboratory has recently been installed for the students of the Faculty of Economics and Management. Lectures are often

supplemented with the use of software and related databases.

The University Library receives and is continually enriched with all major international journals and business magazines and books. In addition, the Library maintains databases on international financial, accounting and other business information such as Datastream, Compustat, Global Vantage, CRSP, IBES, and the Wall Street Journal Index, all of which are available to students.

### Postgraduate Programmes

The Department of Business and Public Administration offers postgraduate programmes at the Master (MBA) and Doctoral (Ph.D.) level.

At the Master's level, the Department offers:

- Master of Business Administration (MBA) Programme (full-time study)
- Professional Master of Business Administration (MBA) Programme (part-time study)
- On September 2017 the Department of Business and Public Administration will offer a new postgraduate programme in Human Resource Management (M.Sc. in HRM). In the beginning, the programme will be offered in the English language and at a later stage it will also be offered in the Greek language. The programme can be completed in three academic semesters (minimum attendance) or in eight academic semesters (maximum attendance). The programme of study requires completion of at least 96 ECTS. The programme has been designed according to international standards adopted by similar programs in leading Universities. For more information you can visit the web page of the Department on [www.ucy.ac.cy/bpa](http://www.ucy.ac.cy/bpa).

The MBA programme full-time study is offered in English and the Professional Master of Business Administration is offered both in Greek and in English. When applying for the programme, candidates have to state their preferred language of instruction. For more information, please visit [www.mba.ucy.ac.cy](http://www.mba.ucy.ac.cy).

The MBA Programme is a one-year, full-time programme geared towards individuals who are committed to developing their management skills and decision-making abilities in a rapidly changing business environment.

The Professional MBA Programme is a two-year, evening programme that meets the needs of professionals who are currently working, and who wish to enhance their leadership abilities and effectiveness in their organizations, as well as acquire the tools for further professional development.

The international journal, *CEO*, in their spring 2010 issue, included the UCY MBA programme in its top-ranked Executive MBA Programmes in Europe.

**Admission Criteria for the MBA Programmes (Full- and Part-time Study)**

- Degree from a recognized academic institution or equivalent
- Three years of full-time work experience and superior academic performance
- GMAT or GRE exams will be considered an additional qualification
- Proficiency in English must be demonstrated (for candidates who apply for the programme in English) by one of the following: TOEFL, IELTS, GCE or equivalent, unless the applicant holds a degree from an English-speaking institution
- Two recommendation letters from faculty members of universities/ higher education institutions or people who are familiar with the work of the candidate
- Personal interview to assess the applicant’s potential to contribute to the programme

**THE PROFESSIONAL MBA PROGRAMME**

The Professional MBA Programme is a two-year, evening programme that meets the needs of professionals who are currently working and who wish to enhance their leadership abilities and effectiveness in their organizations, as well as acquire the tools for further professional development.

To qualify for the MBA degree, students must complete a total of 90 ECTS. A total of 53 ECTS constitute the core curriculum, the intent of which is to introduce students to the fundamentals of the business disciplines. Students can customize their programme according to their professional needs and interests through elective courses (maximum 16 ECTS). A list of courses is available from the Department. Finally, the Applied Business Project (21 ECTS), which takes place during the last three terms, focuses on a real-life case within a corporate or government environment, and brings together teams of students with sponsor companies.

**The Professional MBA Programme Structure (Part-time Study)**

	ECTS
<b>First Year</b>	
<b>Preparation Period</b> (September)	
MBA 502 Introduction to Accounting*	1
MBA 503 Business Mathematics and Statistics*	1

<b>First Term</b>	
<b>September - October</b>	
MBA 531 Business Economics	3.5
MBA 561 Leading and Managing Organisations	4
<b>Second Term</b>	
<b>November - December</b>	
MBA 511 Financial Accounting and Reporting	4
MBA 544 Business Statistics	3.5
<b>Third Term</b>	
<b>January - February</b>	
MBA 521 Financial Management	4
MBA 542 Managing Operations	3.5
<b>Fourth Term</b>	
<b>March - April</b>	
MBA 541 Methods for Management Decisions	3.5
MBA 551 Marketing Management	4
<b>Fifth Term</b>	
<b>May - June</b>	
MBA 522 Capital Markets and Investments	4
MBA 543 Managing Information Systems	2
<b>Sixth Term</b>	
<b>September - October</b>	
MBA 512 Managerial Accounting	3.5
MBA 564 Strategic Management	3.5
<b>Seventh Term</b>	
<b>November - December</b>	
MBA 562 Corporate Social Responsibility and Ethics	2
MBA 566 Leadership	4
<b>Eighth Term</b>	
<b>January - February</b>	
MBA 563 Entrepreneurship	4
<b>Ninth Term</b>	
<b>March - April</b>	
Elective Courses	8
<b>Tenth-Eleventh Term</b>	
<b>May - August</b>	
MBA 590 Applied Business Project	21
Elective Courses	8

**The MBA Programme Structure (Full-time Study)**

	ECTS
<b>Preparation Period</b>	
<b>September</b>	
MBA 502 Introduction to Accounting*	1
MBA 503 Business Mathematics and Statistics*	1

**First Term**

**September-October**

MBA 531 Business Economics	3.5
MBA 551 Marketing Management	4
MBA 561 Leading and Managing Organisations	4
MBA 574 Principles of Communication	2

**Second Term**

**November-December**

MBA 511 Financial Accounting and Reporting for Management Decisions	4
MBA 544 Business Statistics	3.5
MBA 562 Corporate Social Responsibility and Ethics	2
MBA 566 Leadership	4

**Third Term**

**January-February**

MBA 512 Managerial Accounting	3.5
MBA 521 Financial Management	4
MBA 542 Managing Operations	3.5
MBA 563 Entrepreneurship	4

**Fourth Term**

**March-April**

MBA 541 Methods for Management Decisions	3.5
MBA 564 Strategic Management	3.5
Elective Courses	6

**Fifth-Sixth Term**

**May-August**

MBA 522 Capital Markets and Investments	4
MBA 543 Managing Information Systems	2
MBA 590 Applied Business Project	21
Elective Courses	8

**Total** 90

*\* Note: Optional courses of 1 ECTS which are over and above the 90 ECTS required for programme completion.*

**Elective Courses for the MBA and Professional MBA Programmes**

	ECTS
<b>Accounting</b>	
MBA 513 Financial Analysis and Capital Markets	4
MBA 514 Business Law	2
MBA 515 Taxation	2
<b>Finance</b>	
MBA 516 Corporate Governance	2
MBA 523 Options	4
MBA 524 Bank Financial Management	4
MBA 525 International Finance	4
MBA 526 Strategic Decisions in an Uncertain Environment	4
MBA 527 Risk Management	4
MBA 529 Real Estate Investments and Management	4
MBA 532 The European Economy	2

MBA 533 Current Issues in Finance and Global Economics 2

**Management**

MBA 535 The European Crisis and its Management	2
MBA 565 Human Resource Management	4
MBA 567 Managing Change	2
MBA 568 Negotiations	2
MBA 569 Crisis Management	2
MBA 570 Creativity and Innovation	2
MBA 571 Innovation Strategy	2
MBA 572 Business Communication	2
MBA 573 Emotional Intelligence	2
MBA 575 Recent Topics in Public Administration	2
MBA 576 Managing Diversity	2
MBA 577 Multi-Cultural Management	2
MBA 578 Energy Business Management	2

**Marketing**

MBA 552 Marketing Research	4
MBA 553 Strategic Marketing	4
MBA 554 International Marketing	2
MBA 555 Marketing Communications	4
MBA 556 New Product Development	2
MBA 557 Sales Management	2
MBA 558 Consumer Behavior	2
MBA 559 High-Tech Marketing	2

**Operations**

MBA 545 Service Management	4
MBA 546 Supply Chain Management	4
MBA 547 Quality Management	4
MBA 548 Principles of E-Commerce	2
MBA 549 E-Commerce	4

**THE MBA PROGRAMME (Full-time Study)**

The duration of the programme is twelve months and to qualify for the MBA degree, students must complete a total of at least 90 ECTS.

Courses equivalent to 55 ECTS constitute the core curriculum, which will introduce students to all areas of business administration. The courses also enable students to improve their analytical thinking and decision-making skills. The core courses are offered during the first four terms.

Programme participants must choose elective courses equivalent to 14 ECTS from a list of courses available from the Department. The elective courses cover all fields of business administration and are offered during terms four to six.

The Applied Business Project (21 ECTS) takes place during the last three terms, and enables students to apply the knowledge acquired during the programme to an organization. The Applied Business Project reflects one of the central themes of the programme, which is

teamwork. The complexity of the business environment forces managers to seek the integration of knowledge through collaboration.

## MBA Course Descriptions

### Preparatory Courses

#### **MBA 502 Introduction to Accounting (1 ECTS)**

This course is designed to familiarize students with basic accounting concepts. The course will introduce students to basic accounts, the accounting equation and the financial statements. We will then look at how numerous transactions affect different accounts, and examine the advantages and limitations of the accrual basis of accounting and the resulting year-end adjusting entries. The course will then explain how to apply the above information to merchandising companies.

#### **MBA 503 Business Mathematics and Statistics (1 ECTS)**

The course reviews the fundamental mathematical concepts that will be required for subsequent MBA courses. Topics covered include Basic Calculus (functions, differentiation, and integration) and Linear Algebra (systems of equations and inequalities). The course also examines basic topics in Statistics, such as Elements of Probability Theory, Probability Distributions, Measures of Central Tendency and Dispersion.

### Core and Elective Courses

#### **MBA 511 Financial Accounting and Reporting (4 ECTS)**

The major objective of this course is to provide a framework for understanding the role and usefulness of financial information provided by:

- a) organizations through their annual reports or through other means of communication,
- b) other capital market participants, such as financial analysts, credit analysts, or managers,
- c) the financial press. This course is designed to enable students to understand financial statements intelligently, and make well-informed business decisions based on the financial information incorporated in the major financial statements.

Throughout the course, students are expected to always undertake the role of the decision maker or the role of any other major capital market participant (e.g., credit analyst or banker, manager, financial analyst) and make decisions based on the relevant financial information. All the aforementioned issues will be applied extensively to the Cypriot and international capital markets.

#### **MBA 512 Managerial Accounting (3.5 ECTS)**

This course concentrates on the use of accounting information for costing, decision making and control in the firm. The first part introduces the principles of management accounting pertaining to cost behaviour, costing products and services, and using cost data in decision making. The second part addresses accounting as a vehicle for exercising control in the firm, and focuses on understanding the budgetary process, divisional performance measurement, compensation incentive systems, and the role of management accounting information in corporate governance.

#### **MBA 513 Financial Analysis and Capital Markets (4 ECTS)**

The major objective of this course is to present a comprehensive analysis of financial and capital market information as an aid to investing, financing and managerial decision making. The course will emphasize:

- i) the main and most important methods that are used to analyze financial information including ratio analysis and prospective analysis, i.e., forecasting and valuation;
- ii) the quality of financial information and business strategy analysis;
- iii) applications, i.e., credit analysis and bankruptcy prediction, security analysis, management communication, economic value added, role of financial information in dividend policy and mergers & acquisitions;
- iv) corporate governance;
- v) international financial analysis and contemporary issues in financial analysis; all the aforementioned issues will be applied extensively to the Cypriot and international capital markets.

#### **MBA 514 Business Law (2 ECTS)**

The course examines the law that affects the current business environment. It analyses legal issues which business generally needs to address. The course covers contract law, commercial legal documents, bankruptcy, franchises, partnerships, joint ventures, corporations, labour law, property law and insurance.

#### **MBA 515 Taxation (2 ECTS)**

The course examines taxation issues that affect individuals and companies residing in the Republic of Cyprus. Specifically, it assesses the differences between financial reporting and reporting under taxation laws, international transactions, Value Added Taxation, corporation tax and income tax. Throughout the course emphasis is placed on tax planning for companies and groups of companies.

#### **MBA 521 Financial Management (4 ECTS)**

The course provides an introduction to Corporate Financial Management. It is designed to introduce students to the concepts and techniques necessary to analyze and implement optimal investment and financing decisions by firms. The course emphasizes the effects of time and uncertainty on decisionmaking. Topics include basic discounting techniques, stock and bond valuation, capital budgeting, asset pricing models, efficient markets, corporate governance, and debt policies.

#### **MBA 522 Capital Markets and Investments (4 ECTS)**

This course focuses on the functioning of capital markets, the pricing of various financial instruments, and selecting and evaluating investment strategies in terms of their risk/return characteristics. The course emphasizes the fundamental principles of asset valuation and financing in competitive markets. Topics covered include capital markets, passive and active portfolio management, the CAPM and APT pricing models, basic option pricing, portfolio construction and performance evaluation.

#### **MBA 523 Options (4 ECTS)**

The course provides students with a broad overview of the field of derivatives and gives them the skills needed to value and employ options, option-like instruments and futures. The course covers the use of derivative securities by firms, traders and portfolio managers in order to speculate, hedge particular kinds

of risk or alter the distribution of returns on their portfolios. To discuss these topics meaningfully in an environment that is changing rapidly, it is necessary to stress the fundamentals and to examine particular applications at a more technical level.

#### **MBA 524 Bank Financial Management (4 ECTS)**

The course provides an introduction to Bank Financial Management. Topics covered include the measurement and evaluation of bank performance, basic instruments and techniques, asset/liability management, new financial strategies and integrated decisions for bank management. The course also covers the measurement and management of interest rate, credit, and currency risk.

#### **MBA 525 International Finance (4 ECTS)**

Managing an international business or one exposed to global competition requires an understanding of international financial instruments, markets, and institutions. This course will give students a working knowledge of these issues. The topics covered include: the nature of foreign exchange risk, the determination of exchange rates and interest rates, management of foreign exchange risk, exchange rate forecasting, and emerging market finance issues such as capital market integration, liberalization, and international capital flows.

#### **MBA 526 Strategic Capital Budgeting (4 ECTS)**

The course focuses on investment valuation with flexibility in adjusting future decisions and optimal exercise of embedded options in an uncertain competitive environment. The course emphasizes real options methodology and basic game theory principles in analyzing important strategic firm decisions. The course will supplement theoretical knowledge with case studies and use of software.

#### **MBA 527 Risk Management (4 ECTS)**

Uncertainty is prevalent in today's world and risk management emerges as a powerful tool in the arsenal of managers of modern global enterprises. This course will familiarize students with both the external and internal risks in a variety of institutional settings, and will present techniques for mitigating these risks. Enterprise-wide Risk Management for financial institutions can serve to manage risks in non-financial contexts, while non-financial risks can be hedged with modern financial products and insurance strategies.

#### **MBA 531 Business Economics (3.5 ECTS)**

This course focuses on the application of economic principles and methodologies to business decision problems by introducing the microeconomic and macroeconomic tools used in the analysis of business problems. In this course students will deepen their understanding of economics and learn a variety of techniques that will allow them to solve business problems relating, among other things, to costs, prices, revenues, profits, and market structure. Students will also use computer simulation exercises to examine how the macro economy works (inflation, unemployment, deficits, etc.) and the difficulties confronting economic policy makers using monetary and fiscal policies.

#### **MBA 541 Methods for Management Decisions (3.5 ECTS)**

The course focuses on scientific and systematic approaches to decision making and presents techniques for formulating and solving models for quantitative business problems. Tools and techniques presented include: decision trees, mathematical

programming (optimization), network flow models, elements of queuing theory and simulation, time series analysis and forecasting. These are then applied to practical problems in resource allocation, production, inventory control, operations planning, finance and marketing.

#### **MBA 542 Managing Operations (3.5 ECTS)**

The course examines all activities related to the management of the resources required to produce the goods and services provided by the organization. Topics examined include: introduction to operations management, operations strategy, process analysis, product design and process selection in manufacturing and services, strategic capacity, facility location, facility layout, Just-In-Time systems, introduction to supply chain management, production planning, quality management, and inventory systems.

#### **MBA 543 Management Information Systems (2 ECTS)**

Information systems (IS) are pervasive in all business functions. The course examines the various types of IS encountered in modern businesses, their roles in supporting operations, managerial functions and competitive needs, challenges from the proliferation of IS and their strategic prospects. Technical issues related to IS infrastructure, hardware, software, networks and organization of data resources are examined with an emphasis on managerial issues related to the development, effective deployment, management and strategic business uses of IS resources.

#### **MBA 544 Business Statistics (3.5 ECTS)**

The course presents the use of descriptive and inferential statistics in decision making. Topics covered include: describing and summarizing data, measures of central tendency and dispersion, probability distributions, the normal probability distribution, sampling methods and the central limit theorem, estimation and confidence intervals, hypothesis testing, analysis of variance, regression and correlation analysis. Emphasis is placed on practical applications using statistical analysis software.

#### **MBA 545 Service Management (4 ECTS)**

This course provides a detailed look at how services can be effectively managed in today's challenging environment. The service sector represents the largest segment of most economies. The focus is on the service process and its three supporting elements: strategy, design and delivery. A mix of qualitative and quantitative tools is presented to understand and manage the underlying economics of service and e-service operations. Particular emphasis is placed on issues of service quality and process restructuring for increased performance.

#### **MBA 546 Supply Chain Management (4 ECTS)**

The course examines the management of activities associated with the flow and transformation of goods from the raw materials stage through to the end user, as well as the associated information flows, with the aim of achieving a sustainable competitive advantage. Topics covered include: Introduction to supply chain management, strategic fit in supply chains, cycle inventory, safety inventory, postponement and product design, transportation in supply chains, facility decisions, and coordination in the supply chain.

**MBA 547 Quality Management (4 ECTS)**

This course presents managerial and quantitative approaches for improvement of quality and productivity in service and manufacturing operations. Quality management is viewed as comprising two related systems, the management system and the technical system. This course integrates these systems by presenting state-of-art approaches to organizing for quality. Concepts and techniques covered include, among others: tools for process improvement, six sigma, quality awards, ISO 9000:2000 certifications, SPC, QFD, control charts, process capability assessment; implementation of quality improvement plans.

**MBA 548 Principles of E-Commerce (2 ECTS)**

The term Electronic Commerce, once used to simply describe the act of selling goods and services via the Internet, has now become synonymous with the notion of E-Business and includes a much wider range of activities. The common thread running through all these E-Business activities is the use of networks and technology for the management of all stages of production, with the purpose of connecting the firm with its customers and partners. The class introduces students to E-Commerce by giving an overview of key e-commerce topics. Special emphasis is placed on:

- using case studies to develop practical knowledge on how real firms use E-Commerce
- having Managers and Executives discuss via Skype the strategic and practical challenges that electronic markets raise for their Organizations.

The class is aimed for Executives of all functional areas of modern Organizations. Even though, all knowledge presented at the managerial level and technical expertise in the actual technologies employed is quite helpful, it is not required.

**MBA 549 E-Commerce (4 ECTS)**

In modern Organizations, the internet has become a key medium for communication, marketing and commercial activities. This course covers in detail important relevant topics such as E-commerce Business Models, Digital Advertising and Search Engine Optimization, Consumer Reviews, Security, Platforms, E-commerce Startups and Network Effects. Course topics are explored while bringing into perspective current business news and the latest developments in electronic markets.

The above topics are reinforced through:

- Case studies which develop practical knowledge on how real firms use E-Commerce
- the development of a solid theoretical background that helps students make sense of complex market interactions
- the introduction of the theoretical background that is required for the development of strategic plans in e-commerce
- Managers and Executives who share in person and via skype the strategic and practical challenges that electronic markets raise for their Organizations

The class is aimed for Executives of all functional areas of modern Organizations. Even though, all knowledge presented at the managerial level and technical expertise in the actual technologies employed is quite helpful, it is not required.

**MBA 551 Marketing Management (4 ECTS)**

This course provides an overall view of marketing's role in contemporary organizations and explores its relationship to other business functions. It presents the marketing planning process and shows that effective decision making builds on a thorough

analysis and understanding of the marketing environment. It emphasizes how to determine the organization's marketing mix, including product, pricing, promotion, and distribution strategies. It discusses the main challenges currently faced by marketing managers and presents recent developments in marketing theory and practice.

**MBA 552 Marketing Research (4 ECTS)**

The main objective of this course is to provide a basic understanding of marketing research methods. The course emphasizes how important systematic information gathering is for making sound decisions. An extensive presentation of the various steps in the marketing research process is provided, including problem definition, research design, data collection, questionnaire design, measurement, sampling and data analysis. Particular attention is placed on the interpretation and use of research results in making marketing decisions.

**MBA 553 Strategic Marketing (4 ECTS)**

This course focuses on the strategic and managerial issues involved in formulating and implementing marketing strategy, and provides the tools, concepts and theories necessary to make effective strategic marketing decisions. A framework for developing marketing strategies that yield a sustainable competitive advantage based on customer, competitor, industry and environmental analysis is comprehensively analyzed. The course examines the most recent theories and methods, analytical techniques, and current best practices for developing marketing strategies.

**MBA 554 International Marketing (4 ECTS)**

This course addresses the opportunities and challenges associated with the development and implementation of marketing strategy in international markets. The course will provide students with the knowledge and skills to design and implement marketing plans in targeted foreign markets. Topics covered include analysis of the international marketing environment; foreign market selection, targeting and positioning; foreign market entry modes; international marketing mix strategy; and the organization and control of international marketing activities.

**MBA 555 Marketing Communications (4 ECTS)**

This course focuses on the key concepts, theories, strategies and tactics associated with marketing communications decisions. Particular attention is placed on the development of advertising campaigns, covering issues related to: defining advertising objectives, developing advertising strategy, the advertising creative process, the advertising budget, media planning and the evaluation of advertising effectiveness. Also emphasized is the importance of coordinating and integrating advertising with other communication tools (e.g., sales promotion, public relations, personal selling, and direct marketing) in order to achieve superior results.

**MBA 556 New Product Development (2 ECTS)**

New products are vital to the success of all companies. Thus, expertise in the development and marketing of new products is a critical skill for all managers. This course examines the methods and techniques used for analyzing market opportunities, and describes the product development process, from idea generation to market launch. Topics covered include the generation of new product ideas, mapping customer perceptions,

product life cycle, market segmentation, product positioning, forecasting market demand, product design, and new product testing.

#### **MBA 557 Sales Management (2 ECTS)**

This course focuses on the activities and problems of Sales Management. It examines the role of the sales force in different kinds of organizations, analyzes the key elements of the sales strategy, and shows how an effective sales strategy supports the overall marketing effort. The course offers an extensive presentation of the Sales Management process, covering issues related to the design of the organization structure, the recruitment, selection, training, motivation, control and compensation of salespeople, and the assessment of the sales organization's effectiveness and individual salespeople's performance.

#### **MBA 558 Consumer Behavior (2 ECTS)**

Contemporary marketing emphasizes the critical importance of a customer-oriented approach to business. A thorough understanding of the buyer decision making process is critical to successful marketing. This course examines the factors that influence the buying behaviour of consumers and industrial customers, and outlines their implications for marketing strategy. The course will teach students how to predict buyer response to marketing actions and to develop effective marketing strategies and tactics.

#### **MBA 561 Leading and Managing Organizations (4 ECTS)**

This course is designed to teach students how to be more effective managers in any organizational context, by giving them a framework for understanding how organizations function and how their individual staff members and work groups behave. Diversity, continuous application of new technologies and ever-greater interdependence – between individuals, work groups, and organizations – drastically challenge the skills and creativity of modern managers.

#### **MBA 562 Corporate Social Responsibility and Ethics (2 ECTS)**

This course examines the foundations of moral reasoning and analyses the ethical issues that arise in a wide range of contemporary business practices. The central aim of the course is to enable students to develop a framework through which to recognize, critically analyze, and appropriately respond to the social, ethical, and political challenges and dilemmas as they arise in their careers.

#### **MBA 563 Entrepreneurship (4 ECTS)**

The purpose of this course is to explore the many dimensions of new venture creation and growth. While most examples will be drawn from new venture formation, we will also examine cases in entrepreneurship, social and non-profit entrepreneurship. The class sessions will be devoted to conceptualizing, developing, and managing successful new ventures, ideas or products with the goal of creating a business plan.

#### **MBA 564 Strategic Management (3.5 ECTS)**

The course explores a wide range of strategic issues facing businesses, focusing particularly on the sources of sustainable competitive advantage and the interaction between industry structure and organisational capabilities. It introduces a variety of modern strategy frameworks and methodologies and builds on

core topics such as Economics, Organisational Processes, Operations and Marketing.

#### **MBA 565 Human Resource Management (4 ECTS)**

This course provides an overview of Human Resource Management (HRM), considering it to be an integral function of any organization. It focuses on the planning and application of all human resource management activities, both functional and strategic, with special emphasis on the importance of human resources as a source of organizational competitive advantage.

#### **MBA 566 Leadership (4 ECTS)**

This course discusses the fundamental aspects of Leadership, starting from the premise that Leadership is a process, not a position. The course focuses on the interaction among the leaders, the followers and the situation as a model for studying the leadership process, and it examines the traits and values of leaders, charismatic leadership, the problems encountered by current leaders and the role of emotional intelligence in dealing with these problems. Special emphasis is placed on "surviving leadership."

#### **MBA 567 Managing Change (2 ECTS)**

The challenges of globalization, new technologies and heightened public and stakeholder scrutiny increasingly require greater adaptability throughout the entire organization. This course will arm students with practical skills and hands-on tools for planning and guiding systemic change (strategic shifts, business turnarounds, organizational transformations) and managing specific change projects (innovations and new ventures).

#### **MBA 568 Negotiations (2 ECTS)**

In a constantly changing business environment, successful negotiation skills are imperative for business leaders. This course focuses on developing these skills and teaching students how to critically assess negotiation situations. Conflict Management is stressed and special emphasis is placed on understanding difficult cases through real-world cases, exercises, role-plays and simulations.

#### **MBA 569 Crisis Management (2 ECTS)**

The key aim of this course is to provide a thorough introduction to the key themes and areas of Crisis and Disaster Management with special emphasis given on the understanding of Risk Analysis and Management, Preparation and Planning, Crisis Handling and Crisis Communications Management. In addition, there is a range of secondary issues, from People Management, Knowledge Management and the role of media which also play a very important role. When completing this course, students should be well familiarized with the theory and practice of Crisis Management and know the basics of relevant fields including Business Continuity, Issues Management, Risk Management, Crisis Communications Management and Organizational Resilience.

#### **MBA 570 Creativity and Innovation (2 ECTS)**

The course focuses on the challenges involved in attempting to profit from both incremental routine innovation and more radical revolutionary changes in products and processes. It highlights the importance of innovation to new ventures as well as established firms, and explores the organizational, economic and strategic problems that need to be tackled in order to ensure innovation as a long-term source of competitive advantage.

**MBA 574 Principles of Business Communication (2 ECTS)**

Effective communication is an important skill in business. This course develops an awareness of the complexity involved in the communication process so that current and prospective Managers learn to communicate effectively both verbally and nonverbally within a business setting. Emphasis is placed on: developing a business communication plan; correctly identifying one's audience; the importance of communication in regards to company image. The elements of successful internal and within-group communication are also examined.

**MBA 590 Applied Business Project (21 ECTS)**

The applied business project is the highlight of the programme, as students must combine the knowledge and tools acquired during the MBA Programme with practice. During the first part of the project, students will develop their research questions, as identified through an exploratory study. Upon completion of the first part of the project, students will have developed a course of action to examine the issues that need to be resolved (in the collaborating organization). The project will first be designed as a team effort supervised by a faculty member, and then will be implemented by the student teams. Teams collect and analyze information from the organization and propose applicable solutions. During this part, teams complete the writing of their applied business project and present their results to a committee.

**THE DOCTORAL PROGRAMME**

The Department of Business and Public Administration (BPA) offers a Ph.D. Programme in Business Administration. The Ph.D. programme is intended for students (Cypriots and non-Cypriots) from accredited universities with postgraduate qualifications at the Master's level.

The programme is offered in Greek and English.

Graduates of the programme will be qualified to: pursue an academic career in government and/or private universities in Cyprus or abroad; be employed in public or private organizations; engage in activities of an advisory/consultant nature.

Financial support for doctoral students in the Department is the same as that for all doctoral programmes at the University. Scholarships (i.e. reduction of / exemption from tuition fees and / or financial support towards research / teaching project) are granted based on available resources (e.g., funded research programmes, donations from other sources, etc.), always in accordance with applicable regulations of the University.

**Admission Criteria**

The basic criterion for admission is academic performance. Specific admission criteria are defined in the relevant rules of the University of Cyprus. In addition, candidates must:

- Hold a postgraduate, Master-level qualification in a relevant subject from a recognized university (or submit a certificate confirming that the Master level

qualification will be obtained before the beginning of the doctoral program).

- Prepare and submit a preliminary research proposal that outlines the proposed research topic. Specifically, the proposal must include:
  - The research question (s) and its significance
  - The research method (s) - how the question (s) will be approached
  - The essential literature on the specific question (s)
  - Schedule for completion of the Ph.D.
- Students must also provide complete degree transcripts for their Master's level and undergraduate study
- Request that at least two academic references in support of their application are sent to University of Cyprus (applicants should note the names and contact details of their academic references on their application).
- Submit certificates and other relevant documents, e.g., samples of prior academic and / or professional experience (publications, surveys, digital work, etc.).
- Submit evidence of very good knowledge of the English language.

**MBA 574 Principles of Business Communication (2 ECTS)**

It is recommended that before candidates apply for the programme, they explore the research interests of the resident faculty along with their own and if possible communicate with them for a preliminary discussion.

**Programme Structure**

The programme's requirements correspond to the Doctoral Programme requirements as defined by the Rules of Study at the University of Cyprus, and are divided into three parts (total 240 ECTS).

The subjects required for the *first part* of the programme represent 60 ECTS (i.e., 6-10 courses). Three of these courses are foundation courses in the specific field the student has decided to focus on. Depending on previous academic preparation (e.g., successful completion of relevant postgraduate courses in another academic institution), the student may be partially or fully exempted from the above courses. Upon completion of this first part of the programme, the student must successfully sit a comprehensive exam.

The *second part* of the programme relates to the manner of conducting the research, focusing on issues related to Management (this part represents 120 ECTS).

The *third part*, the writing stage of the dissertation, is credited with 60 ECTS. This could take the form of a comprehensive study (thesis) or a series of essays on a specific research area. The thesis must be an original work that makes a significant contribution to the field. The aim is to produce research results that are publishable in refereed international journals.

*Note: The specific procedures and criteria required by/for the programme (e.g., exemption from courses, assignment of supervisor, comprehensive exams, submission / evaluation of research proposal, evaluation of the thesis) will comply in full with the applicable Rules of Graduate Studies of the University of Cyprus. For this reason they are not repeated here, except where stipulated by the University.*

## Type and Description of Courses

The programme includes courses of quantitative and qualitative content, which touch on matters of epistemology, methodology, methods of quantitative analysis and qualitative research, finance, management, management science, operations management and marketing. The curriculum for each student is adjusted according to his/her chosen field of concentration. The courses offered are the following:

### (a) Common Core Courses

- Epistemology in Business Administration
- Research Methods in Business I (Quantitative Methods)
- Research Methods in Management II (Qualitative Methods)
- EDU 683 Educational Statistics with Applications of Statistical Package (currently replacement of the above core courses)
- EDU 682 Qualitative Research in Education (currently replacement of the above core courses)

### (b) Advanced Courses

- Organizational Behavior
- Organizational Theory
- Strategic Management
- Entrepreneurship & Innovation
- Human Resource Management
- Operations Management
- Supply Chain Management
- Service Management
- Applied Optimization Modeling
- Planning under Uncertainty

- Strategic Marketing
- Consumer Behavior
- Marketing Models
- International Marketing
- Advanced Topics in Marketing
- Microeconomics
- Econometrics
- Microeconomics Analysis II / Game Theory
- Industrial Organization and Policy
- Consumer Behavior and Applications

Instruction will be in the two languages, Greek and English. The courses will be taught provided a sufficient number of students register for them. In the cases where the number of students registered for a course is small, this course will follow the structure of a seminar or independent study under the supervision of departmental faculty. The majority of courses will be offered by the department, while useful and relevant courses from other departments of the University of Cyprus will also be utilized (i.e. Psychology, Finance/Accounting, Education, Economics, etc.) on the basis of university or departmental regulations.

## Project Management

The project management is entrusted to a three-member Steering Committee of Postgraduate Studies (comprised of academic faculty), which is appointed by the Departmental Board. The term of the Steering Committee is three years. The tasks of the Committee include:

- a) Notice of job applications and assessment (including the assessment of preliminary research proposals of candidates)
- b) Coordination of comprehensive examinations and supervision of doctoral theses in accordance with the Rules of the University
- c) General Management of Programme
- d) Submission of an annual activity report to the Department Council

## Table of Postgraduate Courses

### (a) Core Courses

- BPA 630 Epistemology in Business Administration
- BPA 640 Research Methods in Business I (Quantitative Methods)
- BPA 631 Research Methods in Management II (Qualitative Methods)

- EDU 682 Qualitative Research in Education (currently replacement of the above core courses)
- EDU 683 Educational Statistics with Applications of Statistical Packages (currently replacement of the above core courses)

**(b) Advanced Courses**

- BPA 632 Organizational Behavior
- BPA 633 Organizational Theory
- BPA 634 Entrepreneurship & Innovation
- BPA 635 Strategic Management
- BPA 636 Human Resource Management
- BPA641 Operations Management
- BPA 642 Supply Chain Management
- BPA 643 Service Management
- BPA 644 Applied Optimization Modeling
- BPA 645 Planning under Uncertainty
- BPA 650 Strategic Marketing
- BPA 651 Consumer Behavior
- BPA 652 Marketing Models
- BPA 653 International Marketing
- BPA 654 Advanced Topics in Marketing
- ECO 661 Microeconomics
- ECO 663 Econometrics
- ECO 651 Microeconomics Analysis II/ Game Theory
- ECO 612 Industrial Organization and Policy
- ECO 641 Consumer Behavior and Applications

**Postgraduate Course Descriptions**

**(a) Core Courses**

**BPA 630 Epistemology in Business Administration (10 ECTS)**

The course provides tools for generating ideas and translating them into formal theories in the various fields of business administration. The aim is to offer students clear guidance for defining constructs, thinking through relationships and processes that link constructs, and deriving new theoretical models (or building on existing ones) based on those relationships. It will illustrate how to use causal analysis as well as grounded and emergent approaches to theory construction. Students will learn to distinguish between moderation and mediation as well as how to develop ideas at theoretical and analytical levels. The explicit aim of the course is to provide students with a deeper appreciation for theory building.

**BPA 640 Research Methods in Business Administration I (Quantitative Methods) (10 ECTS)**

The overall aim of the course is to provide econometric analytical tools to Ph.D. students to help identify the appropriate econometric technique given their research question and the available data. Students will be able to distinguish between different econometric models and understand their various strengths, limitations and pitfalls.

**BPA 631 Research Methods in Business Administration II (Qualitative Methods) (10 ECTS)**

The course comprises three main components:

1. It gives students hands-on knowledge on how to conduct a qualitative research project with a particular interest in how to make a research topic workable, how to collect and analyze qualitative-type data (e.g., visual methods, narratives, questionnaires, ethnography, biography, interviews) and how to select cases.
2. It discusses qualitative research methods in relation to dominant theoretical perspectives and the quality criteria of research projects today.
3. By actively participating in an intensive supervisory process, the course provides students with a good platform for developing their own research methods and projects.

**EDU 682 Qualitative Research in Education (12 ECTS)**

This course consists of four major parts. The first part examines the philosophical underpinnings of qualitative and quantitative research and compares their main ontological, epistemological, and methodological beliefs. It also looks at various theoretical traditions and orientations within qualitative research such as ethnography, phenomenology, case study, participatory action research as well as Critical Theory. The second part focuses on issues related to the design of Qualitative Research including the role of theory, the type of research questions that can be addressed by qualitative research, the use of conceptual maps, the “emergent design” approach, the role of the researcher in qualitative research and purposive sampling; issues such as negotiating access to the field, establishing rapport, obtaining informed consent, as well as ethical considerations are also discussed. The third part of the course focuses on the major methods of data collection in qualitative research: in-depth interviewing, observations, and documentary analysis. Techniques for analyzing qualitative data are then considered, with special emphasis given on grounded theory and the “constant comparative method”; the application of software for analyzing qualitative data (e.g., Atlas.ti) is also presented and discussed. The last part of the course considers ways of presenting and justifying qualitative studies, as well as several criteria for judging the quality of such studies (e.g. credibility, transferability, confirmability and authenticity).

**EDU 683 Educational Statistics with Applications of Statistical Packages (12 ECTS)**

This course consists of two major units. The first unit introduces students to the fundamental concepts and ideas in Quantitative Research, including its philosophical underpinnings and their differences from those of qualitative research, the main stages involved in conducting and reporting a quantitative research study and basic terms and concepts used in statistics. The second unit focuses on the use of the statistical package SPSS for analyzing quantitative data. This unit begins with basic commands for data manipulation (e.g. recode, compute), and then shifts to specific techniques for data analysis, including Descriptive Statistics, Correlation Analysis, Inferential Statistics (both parametric and non-parametric criteria), Analysis of Variance (one-way ANOVA, two-way ANOVA, MANOVA and repeated MANOVA), Exploratory Factor Analysis, as well as Simple and Multiple Regression Analysis. Throughout this unit, students are given ample opportunities to determine the most appropriate technique to apply to various, specific research questions; to use these techniques in order to analyze actual data; to interpret the output yielded from these analyses; to draw valid inferences. The course is also designed to enable students to become critical consumers of research studies in which such techniques have been used to analyze quantitative data.

## (b) Advanced Courses

### **BPA 632 Organizational Behavior (7.5 ECTS)**

This course is designed to show students the diversity of organizational contexts by giving them a framework for understanding the way organizations function and the behavior of individuals and work groups within them. Diversity, continuous application of new technologies and ever-greater interdependence between individuals, work groups, and organizations drastically challenge the skills and creativity of modern managers.

### **BPA 633 Organizational Theory (7.5 ECTS)**

This course is an introduction to the major theoretical approaches and debates in Organizational Theory, which draws primarily on Sociology and secondarily on Economics, Psychology, and Political Science. This course will provide students with a roadmap to guide them through organizational theory. For this reason the classic theories are presented first and then the newer theories, as these have evolved throughout history to the present.

### **BPA 634 Entrepreneurship & Innovation (7.5 ECTS)**

The course uses theories of innovation and entrepreneurship to explore how effective organizations engage in these two strongly integrated processes. The course examines product, service and process innovation and demonstrates the role of innovation as a driver of organizational growth and competitiveness.

### **BPA 635 Strategic Management (7.5 ECTS)**

The course offers a broad, multi-disciplinary introduction to the study of business strategy, with a particular emphasis on its behavioral and economic foundations. Different schools of thought and their evolution will be analyzed, discussed and compared.

### **BPA 636 Human Resource Management (7.5 ECTS)**

This course introduces students to the theory and practice of Human Resource Management (HRM) in organizations. Issues that will be examined include: the strategic importance of HRM, the role of managers and employees of the organization in HRM issues, recruitment, selection, performance appraisal, HR planning, compensation and benefits and training and development. Students will have the opportunity to analyze a variety of practical situations where the theories behind the practice of HRM are applied.

### **BPA 641 Operations Management (7.5 ECTS)**

This course provides more theoretical and methodological concepts/tools for the management of operations and the decision-making process within the scope of the supply chain. Competitive advantage driven by supply chain strategy has been a common practice in the business environment for the past few years. Most strategies involve improving operational efficiency either through cost reduction or increased capital efficiency. Decision-making about operational issues is one of the most common tasks in organizations. This course will enhance students' ability to perform the quantitative analysis necessary and understand the management issues in order to make good operational decisions within the supply chain. Coverage is topical and will include supply chains issues and strategy, operations management framework, the Six Sigma approach, quality management, demand and supply planning, inventory deployment/control, and transportation networks optimization.

Other topics will be added as the course progresses. Where appropriate, concepts are introduced using case studies.

### **BPA 642 Supply Chain Management (7.5 ECTS)**

This course examines the major challenges involved in managing efficient supply chains. It illustrates various strategic and tactical supply chain issues such as Product Design, Virtual Integration, Information-sharing Strategy, Outsourcing, Procurement, Distribution Strategy, and Risk Management. Students are given the chance to explore emerging supply chain issues, and case studies are used to examine issues related to supply chain management.

### **BPA 643 Service Management (7.5 ECTS)**

The service sector is today one of the largest and fastest-growing components of most developed and developing economies. Most manufacturing firms also encompass extensive service functions in addition to production operations. This course focuses on the unique aspects involved in the design and delivery of service operations, both within "pure" service organizations (banking, retailing, transportation, travel, hospitality, etc.) as well as within the service functions of manufacturing. The course further examines important design and operation issues related to electronic and consulting services. The course takes a theoretical and methodological viewpoint with a bias towards operations, while further considering marketing, IT and human resource management, all of which need to be integrated in order for the service firm to gain a competitive advantage. Students will be exposed to the basic theoretical and methodological approaches related to such issues as Service Delivery Design and Management, Service Quality and Customer Satisfaction, Yield Management and Waiting Line Systems. Students will gain an appreciation of the complexities involved in managing service encounters and implementing changes, and further appreciate entrepreneurial opportunities in services.

### **BPA 644 Applied Optimization Modeling (7.5 ECTS)**

Optimization models provide an effective framework for analyzing diverse quantitative problems to support operational and tactical business decisions. This course looks at different model forms to ascertain their capabilities and limitations in addressing various practical business problems. Students develop modeling skills that involve: ability to formulate different classes of optimization models; familiarization with suitable software tools to numerically solve models; application of models in diverse business problems drawn from operations, Financial Planning, Marketing, etc; ability to derive economic interpretations and insights from the results.

### **BPA 645 Planning under Uncertainty (7.5 ECTS)**

Uncertainty is prevalent in all business endeavors (e.g., due to randomness in economic factors/agents, market volatility, changing customer preferences, and even unpredictable catastrophic events). Ignoring impacts of uncertainty on operational, tactical and, most importantly, on strategic decisions can be perilous for businesses. Prudent planning requires an understanding of sources of uncertainty and means to quantify and mitigate the potential consequences. The focus of this course is on risk measurement and risk management. The course examines various sources of risk, presents metrics for measuring risks and develops quantitative models that appropriately incorporate risk mitigation measures in order to support decisions in the face of uncertainties and ambiguities. Stochastic programming and robust optimization models, as risk

management tools, are examined through practical examples for various business problems.

**BPA 650 Strategic Marketing (7.5 ECTS)**

This course will provide students with an in-depth understanding of fundamental strategic marketing issues. Emphasis will be placed on: the analysis of the environmental and market forces that influence marketing activities; the assessment of marketing resources and capabilities; the development and execution of an overall marketing plan that will enable a firm to achieve a sustainable competitive advantage and superior performance in the marketplace. The course will also examine relevant strategic management theories including the resource-based view of the firm, Industrial Organization Theory, Dynamic Capabilities Theory, and Contingency Theory. By the end of the course students will be familiar with the key strategic marketing theories and concepts, comprehend the extant strategic marketing literature, and will be able to develop and advance their own research interests in the field.

**BPA 651 Consumer Behaviour (7.5 ECTS)**

This course examines fundamental principles, concepts and theories of Consumer Behaviour, emphasizing both the psychological and the sociocultural factors that influence the consumer decision-making process. The course will familiarize students with research in the field of Consumer Behavior as it presents current theoretical and methodological approaches to various aspects of consumer behavior. Upon completion of this course students will be able to analyze and critically assess the extant research, develop innovative research ideas, form testable research hypotheses, and specify rigorous empirical approaches.

**BPA 652 Marketing Models (7.5 ECTS)**

The objective of this course is to introduce students to the quantitative models used to investigate marketing-related research problems and improve marketing decisions. Upon completion of this course students will be able to build their own models and explore research questions.

**BPA 653 International Marketing (7.5 ECTS)**

This course will present the distinctive characteristics of International Marketing, and identify the main challenges firms face when they expand their operations in overseas markets. The course analyzes the complex environmental forces that influence international marketing strategies and programs—e.g., the economic, social, political, cultural and legal dimensions. It also presents the strategic planning process necessary for developing international marketing programs that will satisfy customers across different country-markets. Drawing on the relevant academic literature, the course will examine international trade theories, the internationalization process of the firm, multinational firms and foreign direct investments, and other research paradigms that have influenced the evolution of international marketing as a distinct academic discipline. By the end of the course students should be familiar with the key international marketing theories and concepts, recognize the main research streams in the field of International Marketing, understand the alternative methodological approaches that are commonly employed in order to investigate international marketing phenomena, and develop innovative research ideas for advancing the existing body of knowledge.

**BPA 654 Advanced Topics in Marketing (7.5 ECTS)**

This course introduces students to topical marketing problems and research challenges. Students will be encouraged to make a critical analysis of recent developments in the general social and economic environment and assess the influence of such changes on contemporary marketing theory and practice. The main topics include Environmental and Green Marketing, Corporate Social Responsibility, the role of digital interactive media and social networks, the diffusion of technological innovations, and health care marketing.

**ECO 661 Microeconomics (10 ECTS)**

The course will begin with a review of the classic theories of consumer and producer behavior and then describe basic market structures and analysis of factor markets. It will explain the basic principles of game theory under conditions of both complete and incomplete information. These will be the tools for the analysis of topics in modern Microeconomic Theory such as bargaining auctions, moral hazard and adverse selection.

**ECO 663 Econometrics (10 ECTS)**

Probability Theory. Random Sample. Regression, Prediction and related notions. The Linear (Normal) Regression Model: Estimation, Hypothesis Testing, Misspecification Testing. Generalized Linear Regression. Elements of Time-Series. Heteroskedasticity and Autocorrelation. Dynamic Linear Regression. Nonlinear Regression. Multivariate Regression Systems. The Simultaneous-Equation Model. Generalized Method of Moments. Limited Dependent Variables. Panel Data Models.

**ECO 651 Microeconomic Analysis II (7.5 ECTS)**

This course continues the analysis of the principles of Microeconomic Theory and is divided into two parts. The first part will develop the basic principles of Game Theory under conditions of both complete and incomplete information and will apply these to the analysis of problems such as collusion, bargaining, auctions, moral hazard, and adverse selection. The second part will serve as an introduction to General Equilibrium Theory and its extensions, and will discuss the general theorems of welfare economics.

**ECO 612 Industrial Organization and Policy (7.5 ECTS)**

Industrial organization is concerned with the study of imperfectly competitive markets. The course will give students an understanding of competitive interaction in such markets; it will introduce the empirical methods used to analyze markets; and it will outline the basic policy principles that govern their operation. Indicative topics include estimation of supply and demand, estimation of cost and production functions, Monopoly Regulation, Oligopoly Models, collusion and cartels, mergers, Product Differentiation, Barriers to Entry.

**ECO 641 Consumer Behavior and Applications (7.5 ECTS)**

This course offers a comprehensive presentation of Consumer Theory with emphasis on the use of econometric techniques and data for the empirical analysis of consumer behavior at the individual and aggregate level. Following a brief review of the fundamental principles of Consumer Theory (preferences and constraints, optimization and duality) the course will focus on demand analysis as a tool for studying behavioral and welfare aspects of consumer theory. Separability, aggregation, dynamics and participation will also be examined. The last several classes will concentrate on topics drawn from applied demand analysis

topics, including externalities and public goods, cost of living indices and quality, equivalence scales, intrahousehold allocation and the analysis of tax and benefit reforms.

## Research Interests of the Academic Staff

### • George Hadjinicolas, Professor

The Production-Marketing Interface, International Manufacturing/ Operations Management, Serial Production Systems, Product Positioning Methods.

### • George Kassinis, Associate Professor

Strategy, Environmental Issues in Business, CSR, Stakeholders and Value Co-Creation, Social Networks, Industrial Ecology and Regional Development.

### • Leonidas C. Leonidou, Professor

International Marketing/Purchasing, Relationship Marketing, Socially Responsible Marketing, Marketing in Emerging Economies, and Strategic Marketing.

### • Panos Markopoulos, Assistant Professor

Management Information Systems, Economics and Electronic Markets, Product Information Online: Mechanisms and Market Operation, Game Theory.

### • Christos Nicolaides, Lecturer

Apply mathematical, statistical and computational tools to large-scale empirical and data research questions with application in predicting diseases spreading, design of optimal mitigation strategies against outbreaks and the diffusion of information, ideas and innovation through network systems.

### • Nicos Nicolaou, Assistant Professor

Entrepreneurship, Behavioral Genetics, University Spinouts, University-Industry Technology Transfer, Social Network Theory, Innovation Management.

### • Alexia Panayiotou, Assistant Professor

Production of Discourse in/by Organizations, Representation of Management and Organizations in Popular Culture, Feminist Analysis of Organizations, Gender in the Workplace, Organizational Space and Symbolism, Emotionality of Work.

### • Andreas Soteriou, Professor

Management of Service Operations, Production and Operations Management Quality and Productivity in Services and Manufacturing, Empirical Research Methods.

### • Eleni Stavrou-Costea, Associate Professor

Strategic Human Resource Managements in a Comparative International Context, Flexible Work Arrangements, Work-life Balance and Intergenerational Transitions in Family Firms.

### • Marios Theodosiou, Associate Professor

Standardization versus Adaptation of Marketing Strategy in International Markets, Marketing Strategy-Performance Relationship in the Context of International Business Ventures, Export Marketing Strategies, International Marketing Management, Internet Marketing Strategy.

### • Haridimos Tsoukas, Professor

Knowledge-based perspectives on Organizations, Management of Organizational Change and Social Reforms, Organizations, Change and Routines, Practical reason – the Epistemology of Practice, Phenomenological-neoaristotelian Perspectives on Organizations and Organization Theory, Meta-theoretical issues in Organization Theory and Management Studies.

### • Hercules Vladimirov, Professor

Stochastic Programming, Large-scale Optimization, Production Management/Planning, Inventory Planning / Control, Parallel and Distributed Computing, Models for Planning under Uncertainty with Applications in Financial Planning.

### • Christiana Ierodiakonou, Lecturer

Gender and work/career, Work-family transitions and career paths, Occupational gender segregation, Flexible Work Arrangements, Welfare Systems and Employment, Patterns of Inequality, Equality and Diversity.

## Contact Details

### Graduate Studies Committee

Eleni Stavrou-Costea  
Andreas Soteriou  
Marios Theodosiou

### Doctoral Programme Director

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# Department of Economics



*The aim of the Department of Economics is to advance economics at the national and international level.*

*The Department offers the following postgraduate degrees:*

- *Master Degree in Economic Analysis (MECA) (this degree is designed for students who plan to continue their studies for a Ph.D. degree)*
- *Master Degree in Monetary and Financial Economics (MMFE) (this degree is designed for students who do not intend to continue their studies for a Ph.D. degree)*
- *Master Degree in Financial Economics (offered jointly with the Department of Accounting and Finance)*
- *Ph.D. in Economics*

## Introduction

The science of Economics studies the behaviour of human beings both as individuals and as organised society. As individuals we continuously face economic problems, such as whether and how much to save, what goods and services to purchase, and how to increase and use our income to satisfy the multitude of our economic needs. Every society faces a continuously changing international economic environment and has to take economic decisions such as entering into trade alliances or participating in an economic union, like the European Union. It also faces economic problems at home such as inflation, unemployment, balance-of-payments disequilibrium; and economic challenges such as trade alliances and economic unions. A nation's effective solution to these problems determines its standard of living and consequently its ranking in the international community.

Understanding the economic behaviour of the individual and the basic principles that govern the functioning of a modern economy enables the economist to evaluate economic indicators and information correctly and to make rational decisions. With such knowledge the economics graduate can pursue a career in civil service, banking, education, or research and advance to an important position in the public or private sector.

Our Department strives to offer high quality graduate programmes that teach the state of the art in economics in order to allow its graduates to compete effectively with the graduates of the best foreign universities.

## Aims of the Department

- (a) To equip students with qualifications that make them attractive to employers in Cyprus and which are comparable to those of the best universities abroad.
- (b) To engage in research with a view to producing results of high academic standards.
- (c) To set the standards for the discussion of economic issues and appropriate economy policy decisions in Cyprus.

The Department's teaching philosophy is to encourage students to study economic issues in depth and with independence of mind. For this reason the emphasis in the teaching programme is to help students develop strong analytical skills and acquire the ability to critically assess economic arguments. We pursue these objectives through a rigorous teaching programme covering mainstream

subjects based on contemporary methods of economic analysis.

The teaching and research programme of the Department is also concerned with economic issues of interest to Cyprus. The objective is to provide a constructive framework for scientific investigation of such problems. We believe that a high international profile of the Department will contribute to resolving local problems. The Department aims to become a centre for thorough study of economic issues concerning Cyprus - a centre that will provide results that may serve the Government and other local institutions to reach appropriate economic policy decisions.

### Research Areas

We believe that research of a high academic standard is necessary to raise the international profile of the Department. Members of staff are strongly encouraged to undertake research both individually and by pooling their resources in teams and through collaborations with academics abroad. In this respect the Department has created the conditions required for research of the highest academic standard, such as the establishment of adequate research facilities (library, computers, databases, etc.), encouraging exchange visits with academic institutions abroad, and the participation in, and organization of, international conferences. Furthermore, the Department facilitates national and international dissemination of research output through a discussion paper series.

All members of the Academic Staff are actively engaged in research on topics of local and international interest. Emphasis is placed on producing results of high academic standard, publishable in reputable academic journals. Attention is also focused on the investigation of issues pertaining to the Cyprus economy and its relationship with the European Union. The researchers in the Department collaborate with researchers in top universities and research organisations overseas like University College London, Institute for Fiscal Studies, Tilburg University, University of North Carolina, Penn State University, University of Illinois, Tufts University, Vanderbilt University, Carnegie-Mellon University, and others.

The research agenda of the Department's Faculty covers a broad range of topics in theoretical and empirical economics and in econometrics. An important debate in the international literature examines the mechanisms that lead to sustainable economic growth. Members of our faculty contribute to this research programme with the use of sophisticated econometric methods to identify the factors that lead to economic growth. Identifying these factors is crucial in formulating the right policies to lift countries out of poverty and onto a path of sustained economic growth. Other topics in international economics that are being researched in the Department are the rate of convergence of European economics and international differences in prices of consumer goods.

Research in the field of international trade focuses on the following areas: (a) the effects of worker migration on welfare, real wages and public goods production, both in the country of origin and in the destination country; (b) economic aid to developing countries, its effects on welfare and employment, and identifying the most effective ways of providing aid; (c) the functioning of international markets in used goods and their contribution to consumer welfare; and (d) the creation of free trade areas and their impact on international trade flows.

Research on consumer economics includes the theoretical development and empirical application of demand systems for the analysis of consumer behaviour and welfare. These systems are used to evaluate the impact on households and their constituent members of various policies such as taxation and child support schemes. In relation to producer behaviour there is ongoing research aimed at the theoretical and empirical analysis of the effects of infrastructure and publicly financed capital on productivity. Other research in the area of firm behaviour examines strategic pricing and quality choice, competition issues, the determinants of exporting activity and productivity gains from exporting.

Research is also conducted on topics of special interest to Cyprus. Some representative topics include: (a) development of a macroeconomic model of the Cypriot economy for the purpose of analysis and forecasting; (b) productivity analysis of the various sectors of the Cyprus economy and comparison with EU and other countries; (c) the effectiveness of public expenditure; (d) the impact of the mass importation of used cars on the Cyprus market; (e) viability of the social security system; and (f) the competitiveness of the Cyprus tourist product.

The University library has a large collection of books in economics and econometrics and subscribes to a large number of journals. There are also time-series and cross-sectional economic data for Cyprus, European Union countries and the rest of the world. The Department has advanced computer hardware and software to support academic research by Academic Staff and graduate students. Study and research by undergraduate and graduate students benefits from a modern computer lab, maintained jointly with the Department of Business and Public Administration. There are also several research programmes with external or internal funding in which graduate students can be employed during vacation periods for financial gain and work experience. All these create a fertile environment where graduate students can acquire skills and knowledge that enhance their employment prospects.

### Master's Programmes

#### Admission Requirements

In addition to the requirements described in the relevant *Admission and Attendance Regulations*, candidates for the graduate studies programme are required to have a grade

of 550 in the TOEFL examinations or 213 in the TOEFL computer-based format exam or B in the GCE O-Level examinations or an equivalent qualification demonstrating sufficient knowledge of the English language (by previously obtaining a degree from an accredited U.K. or U.S. academic institution, for instance).

For more information on applications to join the graduate programme of economics, please refer to the *Admission and Attendance Regulations – Application Procedures*.

An undergraduate degree in economics is not necessary for these programmes. All programmes have been designed to accommodate students of diverse backgrounds, particularly students in technical fields such as mathematics, statistics and mechanics.

### General Programme Structure

The normal duration of all programmes for full-time students is three semesters. The maximum time allowed for completion of a degree is eight semesters.

All Master Degrees are awarded upon successful completion of at least 90 ECTS in graduate courses. For the Master Degree in Monetary and Financial Economics programmes, the completion of nine courses and a Master's thesis is required. For the Master Degree in Economic Analysis programme, the requirement is twelve courses or eight courses plus a Master's thesis. Courses are separated into two categories: required and elective courses. Required courses give essential background in microeconomics, macroeconomics and econometrics. Elective courses give students the opportunity to specialize in their area of interest. Required courses for each Master's programme are described below.

### Master's Thesis

(ECO 698 – 24 ECTS, MMFE)

(ECO 699 – 30 ECTS, MECA)

The thesis should demonstrate in-depth knowledge of a particular topic and should contain original research elements. The thesis is presented to students and faculty and is marked independently by the student's advisor and a member of staff with similar research interests appointed by the Departmental Committee of Graduate Studies. If work on the thesis extends beyond one semester, students can register in ECO 600 Master's Thesis (1 ECTS) for at most two subsequent semesters.

### MASTER IN ECONOMIC ANALYSIS (MECA)

The programme aims to prepare students to proceed to a Ph.D. Degree in Economics. The language of instruction of this programme is English. The Programme of Studies is as follows:

	ECTS
<b>First Semester</b>	
ECO 601 Microeconomic Analysis I	7.5
ECO 602 Macroeconomic Analysis I	7.5

ECO 603 Statistics and Econometrics I	7.5
ECO 604 Analytical Methods in Economics	7.5

### Second Semester

ECO 651 Microeconomic Analysis II (ECO 601)	7.5
ECO 652 Macroeconomic Analysis II (ECO 602)	7.5
ECO 653 Statistics and Econometrics II (ECO 603)	7.5

*Note: The courses in brackets are prerequisites*

One of the following:

ECO 605 International Trade	7.5
ECO 606 International Finance	7.5
ECO 610 Money, Banking and Financial Economics	7.5
ECO 611 Labour Economics	7.5
ECO 612 Industrial Organisation and Policy	7.5
ECO 613 Public Economics	7.5
ECO 641 Consumer Theory and Applications	7.5
ECO 644 The Economics of Firm Financing	7.5
ECO 673 Applied Microeconometrics	7.5
ECO 680 Applied Financial Econometrics	7.5

### Third Semester

ECO 699 Master's Thesis	30
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*Notes:*

1. Students may replace an Elective Course with a graduate course offered by other University Departments, following approval from the Departmental Board.
2. Students may replace an Elective Course with an undergraduate course offered by other University Departments, following approval from the Departmental Board.

### MASTER IN MONETARY AND FINANCIAL ECONOMICS (MMFE)

This programme is designed for students who would like to have specialized knowledge in economics. Graduates of this programme are qualified in the areas of monetary and financial economics, in either the public or the private sector. The language of instruction of this programme is Greek.

	ECTS
<b>Required Courses</b>	<b>52.5</b>
<b>First Semester</b>	
ECO 610 Money, Banking and Financial Economics	7.5
ECO 661 Microeconomics	7.5
ECO 662 Macroeconomics	7.5
ECO 663 Econometrics	7.5
<b>Second Semester</b>	
ECO 606 International Finance	7.5
ECO 644 The Economics of Firm Financing	7.5
ECO 680 Applied Financial Econometrics	7.5
One Elective Course	6-7.5
<b>Third Semester</b>	
One Elective Course	6-7.5
ECO 698 Master's Thesis*	24

**Electives Courses 13.5-15**

Two of the following:

AFN 521 Financial Theory	7
AFN 522 Investments	7
AFN 525 Options and Futures	7
AFN 526 Financial Analysis and Capital Market Research	7
AFN 528 Advanced Capital Budgeting	6
AFN 530 Seminar on Cyprus Economy, Banking and Financial Markets	6
AFN 534 Financial Risk Management	6
AFN 538 Applied Topics in Finance	6
ECO 605 International Trade	7.5
ECO 611 Labour Economics	7.5
ECO 612 Industrial Organisation and Policy	7.5
ECO 613 Public Economics	7.5

**\* Master's Thesis:**  
*The thesis must be related to the specific programme and must satisfy the criteria specified above (General Programme Structure – Master's Thesis)*

If the nine courses chosen by a student total under 66 ECTS then that student may enroll in ECO 695 (Seminar on Economic Research, 1.5 ECTS) to fulfill their Master degree requirements.

**MASTER IN FINANCIAL ECONOMICS (offered jointly with the Department of Accounting and Finance)**

The programme is well suited to students with a strong background in economics and/or quantitative methods. The aim of the programme is to teach students how to apply advanced analytical techniques of modern finance and economics in industry, and how to conduct quality research. Graduates may follow career paths in banking and financial institutions that demand high analytical financial, economics and econometrics skills.

The programme is also suited to students who wish to continue onto Ph.D. Programmes in Economics or in Finance. The language of instruction for this programme is English.

	ECTS
<b>First Semester</b>	
ECO 601 Microeconomic Analysis I	7.5
ECO 603 Statistics and Econometrics I	7.5
AFN 521 Financial Theory	7
AFN 525 Options and Futures	7
<b>Second Semester</b>	
ECO 653 Statistics and Econometrics II (ECO 603)	7.5
ECO 680 Applied Financial Econometrics	7.5
AFN 526 Financial Analysis and Capital Market Research	7
AFN 528 Advanced Capital Budgeting	6
AFN 542 Seminar Series (Colloquium)	3
<b>Third Semester</b>	
ECO 602 Macroeconomic Analysis I	7.5

AFN 522 Investments	7
ECO or AFN Master's Thesis	15.5

*Note: The course in brackets is prerequisite*

**Doctoral Programme**

The goal of the Ph.D. Programme in Economics is to provide training to individuals to become high quality researchers in line with international standards. Our aim is for our graduates to be able to successfully compete for employment at research institutions, public policy organizations, and the private sector. The creation of a dynamic research community at the University of Cyprus will raise the level of economic research in Cyprus and will infuse public debate on economic policy with scientific methods and rigorous analysis.

**Admission Requirements**

Minimum requirements for admission to the Ph.D. programme are:

1. Research-oriented Master Degree in Economics. There are such programmes in many universities abroad. At the University of Cyprus the relevant programme is the Master in Economic Analysis. To be admitted into the Ph.D. programme students must have very good academic standing in the core courses (Microeconomics, Macroeconomics and Econometrics). Other academic or research criteria will also be considered. In exceptional cases the Graduate Committee can request that the Department Council waive the minimum grade requirements mentioned above.
2. Very good command of the English language. This can be certified by international examinations such as GCE, TOEFL or other examinations.

Admission is in September. Application materials are available at this site in February and the deadline for application is usually in April.

The Graduate Committee will prepare individual curriculums for each student accepted. This will ensure that all students have the necessary skills and knowledge to proceed to the research stage of their degree.

**Programme Structure**

The Ph.D. programme is a four-year programme (eight semesters, 240 ECTS). Three semesters are taken up by coursework and a minimum of five semesters are required for the research phase.

**A. Coursework - Comprehensive Examinations**

During the first year students need to take compulsory courses - Microeconomics, Macroeconomics and Econometrics. Students can take the exam only if they have a grade of at least 6.5/10 in the 6 core courses (Microeconomics, Macroeconomics and Econometrics) without failing any class. Students cannot repeat classes in order to improve their grades. However, the Graduate Committee can, in

exceptional circumstances, allow students who have failed one class to repeat it.

The Comprehensive Exam is administered by a special Committee of three Academics and will be based on the research interests of each student. The special Committee is also responsible for the timing of the exam which has to take place no later than the end of the second year of studies. The Graduate Committee appoints the special Committee after a suggestion from the student's Research Advisor.

If the student fails the exam he/she will have to repeat it the following semester (and no later than the end of the third year of studies) as specified by the University of Cyprus rules.

### B. Specialization - Submission of Research Proposal

During the second year of studies students take four field courses which give them the opportunity to acquire expertise in their area of interest. At this stage students are expected to discuss their research interests with faculty members, a process that will lead to a mutual agreement between the student and a faculty member who will become the student's main advisor. Under the guidance of his advisor the student will prepare and successfully defend his research proposal by the end of his third year of studies. The procedure for defending the research proposal is stipulated in University regulations.

### C. Research - Submission of Dissertation

The student will conduct his research under the guidance of his advisor. The procedure for defending the dissertation is stipulated in University regulations.

### Credit for Previous Coursework

Credit may be given for up to one year's graduate level coursework (60 ECTS) taken at other universities. Students cannot be exempted from the comprehensive examinations. Completion of the Ph.D. requires that students study at least three years at the University of Cyprus. Students must also take at least 30 ECTS from the elective courses (therefore, courses ECO 601/602/603/651/652/653 are excluded).

Elective Courses	ECTS
ECO 605 International Trade	7.5
ECO 606 International Finance	7.5
ECO 610 Money, Banking and Financial Economics	7.5
ECO 611 Labour Economics	7.5
ECO 612 Industrial Organisation and Policy	7.5
ECO 613 Public Economics	7.5
ECO 641 Consumer Theory and Applications	7.5
ECO 644 The Economics of Firm Financing	7.5
ECO 673 Applied Micro Econometrics	7.5
ECO 680 Applied Financial Econometrics	7.5

Any course considered by the Department Board to have low attendance can be taught as a Reading Course or as an Independent Study (ECO 693 and ECO 696). Students cannot select more than two Reading Courses.

Students may replace up to two elective courses with undergraduate courses offered by other University Departments, upon approval from the Department Board.

### Research Stage

Students who pass their comprehensive examinations have the following additional responsibilities in each semester of their research and writing stages:

- a) They must attend the Departmental seminar series (at least 80%).
- b) They must present their research in this Departmental seminar series. (Students signed up for 15 ECTS research stage are exempt from this requirement).

The Director of Graduate Studies will be responsible for overseeing doctoral students' completion of these requirements.

### Defence of Research Proposal

By the end of the 6th Semester students are required to have prepared and successfully defended their research proposal. The committee examining the thesis proposal consists of three members proposed by the student's advisor and appointed by the Departmental Committee of Graduate Studies. The Committee is chaired by the student's advisor. One of the members of the Committee could be an academic from another department of the University of Cyprus or an academic from another university or research center.

The student is expected to demonstrate the ability to study a new subject in an original way and his/her knowledge of the appropriate research methods. She/he is also expected to present some supportive preliminary results.

### Thesis Defence

Candidates give a brief oral summary and answer questions on the content and results of the Ph.D. Thesis. Candidates are expected to defend the thesis, demonstrate its originality and justify deviations from previous results in the literature.

For more information on Attendance Regulations of Postgraduate Studies, please refer to the *Admission and Attendance Regulations – Application Procedures* or please consult the Graduate School (tel.: 22894021/44).

### Additional Remarks

#### Financial Support for Doctoral Students

The department makes every effort to ensure that doctoral students have enough income to allow them to live independently. This is accomplished mainly through their employment as research assistants. The Department

also awards some grants, while students can also secure employment as research assistants.

## Course Descriptions

### **ECO 601 Microeconomic Analysis I (7.5 ECTS)**

Rigorous study of market structures (Perfect Competition, Monopoly, Monopolistic Competition and Oligopoly), Theory of Distribution under Perfect and Imperfect Competition, Capital Theory and introduction on general equilibrium and welfare economics. Depending on the course duration, the course will proceed with a rigorous treatment of production functions, cost functions and duality.

### **ECO 602 Macroeconomic Analysis I (7.5 ECTS)**

This course reviews the traditional “workhorse” models of Macroeconomics and surveys recent developments in this exceptionally active field. Models of income, interest rate, price level, exchange rate, and balance of payments surplus/deficit determination are reviewed. New theoretical developments involving the microeconomic foundations of macro models, inflation and unemployment, growth and real business cycles are considered.

### **ECO 603 Statistics and Econometrics I (7.5 ECTS)**

Probability Theory. Random Sample. Regression, Prediction and related notions. The Linear (Normal) Regression Model: Estimation, Hypothesis Testing, Misspecification Testing. Generalized Linear Regression. Elements of Time-Series. Heteroskedasticity and Autocorrelation. Dynamic Linear Regression. Nonlinear Regression. Multivariate Regression Systems. The Simultaneous-Equation Model. Generalized Method of Moments. Limited Dependent Variables. Panel Data Models.

### **ECO 604 Analytical Methods in Economics (7.5 ECTS)**

Economic Modelling and Equilibrium Analysis. Linear Models and Matrix Algebra. Comparative Static Analysis. Constrained and Unconstrained Optimization Methods. Dynamic Methods in Continuous and Discrete Time.

### **ECO 605 International Trade (7.5 ECTS)**

The course analyzes the traditional trade theory as well as the “new trade theory.” The first part of the course covers absolute and comparative advantage as well as the Heckscher-Ohlin model. The second part examines optimal tariffs in situations where countries have market power and strategically interact with each other. These methods are used to examine economic integration at both the regional and global levels.

### **ECO 606 International Finance (7.5 ECTS)**

Introduction to the main puzzles in International Economics and the theories that attempt to explain these. Review of the properties of the international business cycle and introduction to International Real Business Cycle Theory, with the goal of understanding international co-movement of macroeconomic variables and synchronization across national economies. A look at international relative prices, including the study of long-run determinants of real exchange rates and an analysis of the related issues of Purchasing Power Parity and the Law of One Price, with the goal of understanding segmentation of international markets and the evidence for international price convergence.

### **ECO 610 Money, Banking and Financial Economics (7.5 ECTS)**

This course examines financial markets and institutions. We analyze recent research developments in financial markets (such as bonds, stocks and foreign exchange) and financial institutions (banks, insurance companies, mutual funds, etc.). Topics to be covered will be chosen from the following: financial markets, financial institutions, the financial system, prices and exchange rates, money and bond markets, interest rates, inflation, stocks, bonds, portfolio choice, European economic convergence, and others.

### **ECO 611 Labour Economics (7.5 ECTS)**

This course begins by examining static and dynamic theories of the demand for and supply of labour as well as their interaction in the context of the competitive paradigm. Emphasis is placed on econometric methods for the empirical implementation of these models. Studies of wage outcomes and apparent deviations from the competitive norm are then considered. A number of non-competitive labour market models are reviewed as well as empirical attempts to discriminate amongst them. The course ends with an examination of issues relating to possible failure of the labour market to clear, e.g., wage rigidity and unemployment.

### **ECO 612 Industrial Organization and Policy (7.5 ECTS)**

Industrial Organization is concerned with the study of imperfectly competitive markets. The course aims to develop an understanding of competitive interaction in such markets; to introduce the empirical methods used to analyze them; and to outline the basic policy principles that govern their operation. Indicative topics include estimation of supply and demand, estimation of cost and production functions, monopoly regulation, oligopoly models, collusion and cartels, mergers, product differentiation, barriers to entry.

### **ECO 613 Public Economics (7.5 ECTS)**

This course examines the effects of fiscal policy on the economy through taxation and public expenditure from both positive and normative points of view. Both positive and normative aspects of public policy are examined in relation to issues like the role of the state, the taxation of goods and services, the effect of taxation on labour supply and savings, the taxation of company profits and its effects on corporate finance and investment and the incidence of taxes. Also examined from the public expenditure point of view are topics on market imperfection such as public goods, externalities and social insurance. In several topics reference is made to the public sector in Cyprus and conclusions drawn from empirical analysis are presented.

### **ECO 641 Consumer Theory and Applications (7.5 ECTS)**

The objective of this course is to provide comprehensive knowledge of Consumer Theory with emphasis on the use of econometric techniques and data for the empirical analysis of consumer behaviour at the individual and aggregate level. Following a brief review of the fundamental principles of Consumer Theory (preferences and constraints, optimisation and duality) the course will focus on demand analysis as a tool for studying behavioural and welfare aspects of consumer theory. Separability, aggregation, dynamics and participation will also be examined. The last few lectures of the course will concentrate on topics drawn from applied demand analysis topics including externalities and public goods, cost of living indices and quality, equivalence scales, intrahousehold allocation and the analysis of tax and benefit reforms.

**ECO 644 The Economics of Firm Financing (7.5 ECTS)**

The course examines among other topics the valuation of a firm's financial condition, bond, stock and option valuation, the trade-off between risk and return, valuation of investment projects, creating value for shareholders, global financial markets and their impact on raising long-term capital, establishing a target capital structure and dividend policy.

**ECO 651 Microeconomic Analysis II (7.5 ECTS)**

This course continues the analysis of the principles of Microeconomic Theory and is divided into two parts. The first part will develop the basic principles of Game Theory under conditions of both complete and incomplete information and will apply these to the analysis of problems such as collusion, bargaining, auctions, moral hazard, and adverse selection. The second part will serve as an introduction to general equilibrium theory and its extensions, and will discuss the general theorems of welfare economics.

**ECO 652 Macroeconomic Analysis II (7.5 ECTS)**

Analytical approach to basic macroeconomic models with finite and infinite horizons in discrete and continuous time. Introduction to Real Business Cycle and International Real Business Cycle Models. Endogenous Growth Theory with emphasis on R&D-based Models and International Technology Diffusion.

**ECO 653 Statistics and Econometrics II (7.5 ECTS)**

Basics of Probability and Statistics, the bootstrap, generalized method of moments, endogeneity, Simultaneous Equation Models, Limited Dependent Variables, Panel Data Models, Nonparametric Density Estimation, Nonparametric Regression Estimation.

**ECO 661 Microeconomic Analysis (7.5 ECTS)**

The course will begin with a review of the classic theories of consumer and producer behavior and proceed to the description of basic market structures and the analysis of factor markets. It will then lay out the basic principles of game theory under conditions of both complete and incomplete information. These will be the tools for the analysis of topics in modern microeconomic theory such as bargaining auctions, moral hazard and adverse selection.

**ECO 662 Macroeconomic Analysis (7.5 ECTS)**

This course reviews the traditional "workhorse" models of Macroeconomics and surveys recent developments in this exceptionally active field. Models of income, interest rate, price level, exchange rate, and balance of payments surplus/deficit determination are reviewed. New theoretical developments involving the microeconomic foundations of macro models, inflation and unemployment, growth and real business cycles are considered.

**ECO 663 Econometrics (7.5 ECTS)**

Probability Theory. Random Sample. Regression, Prediction and related notions. The Linear (Normal) Regression Model: Estimation, Hypothesis Testing, Misspecification Testing. Generalized Linear Regression. Elements of Time-Series. Heteroskedasticity and Autocorrelation. Dynamic Linear Regression. Nonlinear Regression. Multivariate Regression Systems. The Simultaneous-Equation Model. Generalized Method of Moments. Limited Dependent Variables. Panel Data Models.

**ECO 673 Applied Microeconometrics (7.5 ECTS)**

Brief review of the classical linear regression model. Econometric models for cross-section data and time-series data. Economic applications and the use of specialized econometric software are emphasized. Topics will be drawn from: 1) models of multiple equations, 2) models of limited dependent variables, 3) elements of time-series analysis and models for macro and financial data.

**ECO 680 Applied Financial Econometrics (7.5 ECTS)**

Financial Time Series and their characteristics; Conditional Heteroskedastic Models; Nonlinear Models and their applications; Continuous-time Models and their applications; Risk Management, Extreme Values, Quantile Estimation and Value at Risk; Estimation and tests of Asset Pricing Models, Multivariate Volatility Models; High-frequency Data Analysis and Market Microstructure.

**Research Interests of the Academic Staff**

• **Elena Andreou, Professor**

Financial Econometrics with emphasis on Volatility Models, Change-point Tests, High-frequency Financial Data Modelling, Empirical Asset Pricing, Market Microstructure Models, Foreign Exchange Factor Models, Risk Management Methods, Rank Statistics, Residual-based Tests, Sequential Analysis, Simulation Methods, Unit Roots Tests and Forecasting.

• **Andri Chassamboulli, Assistant Professor**

Macroeconomics, Labour Economics, Industrial Organisation, Growth.

• **Louis Christofides, Emeritus Professor**

Labour Economics, Macroeconomics, Applied Econometrics.

• **Sofronis Clerides, Professor**

Industrial organisation, applied microeconomics and international trade.

Specific topics of interest: pricing, quality choice and product differentiation; competition and antitrust; competition in international markets; the determinants of exporting activity and productivity gains from exporting.

• **Panayiota Flori – Lyssioutou, Associate Professor**

Interhousehold and intrahousehold behavior, empirical consumer demands analysis, static and dynamic demand systems, adult equivalence scales, consumer price indices, welfare measures, indirect tax reform and distributional effects, household consumption and saving behavior.

• **Costas Hadjiyiannis, Associate Professor**

International Trade, Game Theory, Industrial Organisation, Microeconomics.

• **Christis Hassapis, Associate Professor**

Macroeconomics and International Finance, with special emphasis on portfolio choice and stockholding behaviour. More specifically portfolio choice under liquidity constraints; saving and stockholding behaviour; interest rate determination and forecasting.

• **Ioannis Kasparis, Associate Professor**

Econometrics, Time series Econometrics.

• **Andros Kourtellos, Associate Professor**

Econometrics, Economic Growth, Social Interactions, Resampling Methods, Hierarchical Models, Varying Coefficient Models, Projection Pursuit Regression, Semiparametric Models.

• **Theofanis P. Mamuneas, Professor**

Applied Microeconomics and Econometrics and Public Economics; Infrastructures, R&D Spillovers and Productivity; Growth.

• **Michael S. Michael, Professor**

International Trade; Theory and Policy, Economics of Integration, International Factor Mobility, Optimal commercial Policies with Variable Factor Supplies and under Various Forms of Trade Restrictions, Trade and Factor Tax Policies with Public Goods Provision, Indirect Tax Reforms, Economics of Foreign Aid, Migration, Trade and Environment and Cyprus-European Union Economic Relations, especially regarding Agriculture.

• **Marios Michaelides, Assistant Professor**

Labour Economics, Unemployment, Labour Market Policy, Compensating Differences, Migration.

• **Panos Pashardes, Emeritus Professor**

Consumer Demand Analysis, Equivalence Scales, Dynamic Demand Systems, Applied Econometrics.

• **Christoforos Pissarides, Professor**

Macroeconomics, Especially Search Theory, Unemployment, Growth and Structural Change.

• **Nicos Theodoropoulos, Assistant Professor**

Labour Economics, Econometrics.

• **Nikolaos Tsakas, Lecturer**

Microeconomics, Social and Economics Networks, Experimental Economics, Game Theory, Industrial Organization.

• **Dimitrios Xeferis, Assistant Professor**

Political Economics, Social Choice, Applied Game Theory, Microeconomic Theory.

• **Marios A. Zachariadis, Associate Professor**

Economic Growth, International Finance, Macroeconomics.

• **Nicos Ziros, Assistant Professor**

Microeconomics, Mathematical Economics, General Equilibrium Theory, Game Theory.

## Contact Details

### Department Secretariat

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## ECONOMICS RESEARCH CENTRE

The Economics Research Centre of the University of Cyprus (ERC) is an independent nonprofit research institution dedicated to high quality policy oriented research in economics. While emphasis is placed on subjects concerning the Cyprus economy, research at the ERC has a broad perspective and aims at results of high academic standard with wide international interest.

The modern economy is said to be 'the economy of knowledge and information' to emphasize the importance of investment in human capital for economic growth and prosperity. This relates to globalization and deregulation and the resulting increase in the intensity of competition in international and local markets. European orientation is leading the Cyprus economy to this increased competition and this renders economic research a high priority.

The ERC studies issues of the Cyprus economy on a continuous basis. It aims to encourage economists of high caliber to become involved in research on subjects of interest to the Cyprus economy. It also aims to serve as a channel for directing local and European research funds to economic research. Among the objectives of the ERC are to study topics of wider economic interest and publish articles in international academic journals.

In conclusion, the ERC aims to fill the gap resulting from the absence of adequate economic research in Cyprus and aspires to make a distinct contribution to the prosperity of the Cypriot people.

### Research Activities

The ERC has the required research infrastructure (suitably trained researchers, computer software and hardware, constantly updated databases, etc.) to respond in a timely and effective manner to research needs in a rapidly changing economy. The Centre also benefits from the expertise offered by established Academics in Cyprus and abroad participating in the research effort as Research Associates and Fellows. The research activities at the ERC are divided into five sectors:

#### Public Economics and Taxation

Research in this sector examines all aspects of public economics, with a focus on fiscal policy and the wider role of government in the economy.

#### Firms and Productivity

This sector aims at providing policy conclusions for improving the institutional and economic framework where businesses operate. The sector investigates the factors that affect productivity and produces productivity indices for the Cyprus economy.

#### Households and Social Welfare

The economic behaviour of households is examined based on the influence it has on the economic well-being of the society and its wider social policy implications. Targeted public assistance, inequality and poverty, are at the centre of the sector's research agenda.

#### Macroeconomic Analysis and Forecasting

The sector focuses on the development of models/tools for macroeconomic analysis of the Cypriot economy and forecasting economic indicators.

GDP growth and inflation forecasts are published quarterly along with an analysis of the outlook for the Cypriot economy. The sector analyses the Business and Consumer Survey data for Cyprus, which records business and consumer expectations regarding the current economic conditions as well as their expectations for various economic variables. The Surveys are published on a monthly basis. The sector also deals with the construction of property price indices for Cyprus.

#### Other Research Projects

This sector undertakes research on specialised topics and it is currently focused on energy policy, topics on employment and unemployment in Europe and issues that have to do with competition.

#### Operation

The ERC operates as an autonomous unit in the Economics Department of the University of Cyprus. Its Director is elected from among the senior staff of the Economics Department and has overall responsibility for administration and research supervision.

The ERC is managed by the Academic Council and the Advisory Council.

The Academic Council oversees the organisation and execution of research and consists of the project coordinators and the research fellows of the ERC.

The Council is composed by five to nine members from both the Academic Community and outside the Academia; it advises the Director of the ERC on selecting research topics that will be of interest to Cyprus.

#### Director

Professor Elena Andreou

#### Contact Details

##### Secretary

Angela Shekersavva

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# Faculty of Engineering

## DEPARTMENTS

Architecture

Civil and Environmental Engineering

Electrical and Computer Engineering

Mechanical and Manufacturing Engineering

Postgraduate Prospectus 2017-2019

# Department of Architecture



*The aim of the Ph.D. Programme in Architecture is to promote scholarly research leading to learning and innovation according to international standards of excellence, in the broader discipline of Architecture and within multidisciplinary and interdisciplinary fields. The Ph.D. Degree is research oriented; this allows identification of relevant international architectural issues while promoting opportunities for local architectural development. The thematic contents of the specific courses offered each semester are based on the educational and research interests of the faculty.*

## Introduction

The role and significance of Architecture can hardly be overestimated. The field is inherently related to a wide variety of areas with aesthetic, technological, social, cultural, economic and political issues that define the human environment. The Department of Architecture consequently has an important role to play in producing architectural skills and knowledge through research, in providing high quality education to students and practitioners of architecture alike. It will also enhance the much-needed dialogue among the parties directly or indirectly involved in its production.

The aim of the Department of Architecture is the education of architects who can successfully perform worldwide, but who also have the knowledge and sensitivity to respond and influence positively the built environment of Europe. In support of this the Department of Architecture provides high quality degree programmes at both undergraduate and postgraduate levels. These programmes emphasize fundamental principles that prepare architects concerned with the challenges of meeting society's needs in a rapidly changing environment. Students participate in research, planning and design in an academic environment, in cooperation with the faculty, research and professional organisations.

The Department of Architecture admits graduate students each year at the Doctoral level (Ph.D. in Architecture).

## Research Areas

Research in the Ph.D. Programme in Architecture focuses on the following areas:

- Architectural Theory and History
- Architectural Communication Media
- Architectural Technology
- Urban Design
- Digital Architectural Design and Fabrication
- Energy and Environmental Design of Buildings

For more details on the research part of the programme, please refer to the website of the faculty at: [www.ucy.ac.cy/arch/el/staff/academic](http://www.ucy.ac.cy/arch/el/staff/academic).

## Financial Support

The University of Cyprus supports many graduate students through teaching assistantships, the number of which

fluctuates according to the needs of each year's programme of studies. There are also additional funding opportunities, information on which is available through the Office of Student Affairs. A number of students can be financially supported through research programmes.

### Doctor of Philosophy Degree (Ph.D.)

Graduate students are awarded a doctoral degree by the Department of Architecture after successfully completing the required course of study and successfully defending and writing their Ph.D. thesis. The minimum duration of the Ph.D. Programme in Architecture for full-time students is 6 semesters.

### Admission to the Ph.D. Programme

Applicants to the Ph.D. programme must possess a Diploma in Architecture (5-year course of study), or the equivalent of a Master (M.A. or M.Sc. in an area of Philosophy, Social Sciences, Fine Arts, Applied Arts, Civil Engineering, Environmental Engineering, Electrical Engineering, Mechanical Engineering, Informatics, Administration or Economic Sciences), from an accredited university.

Candidates must submit an application form to the Department of Architecture within the announced time limits.

For more information on the application and registration procedures, please refer to the *Admission and Attendance Regulations– Application Requirements* or please consult the Graduate School (tel.: 22894044) or the Department Secretariat.

In addition to the general requirements, candidates are requested to state their intended focus area and expectations from their doctoral studies in their statement of purpose when applying. They are also requested to submit any other supportive documentation as evidence of their qualifications.

Applications are evaluated by the Graduate Admissions Committee of the Department of Architecture which makes suggestions to the Council of the Department for final approval of the selected candidates for doctoral studies. The applicants to the Ph.D. programme are selected according to the following criteria:

- Quality of the applicant's background in breadth and depth, and past performance in his/her undergraduate and graduate studies
- Indications of ability for original and innovative research in the proposed area of study
- Relevance of the proposed field of research to the interests of the department, the university and society
- Availability of graduate positions in the doctoral programme and the necessary infrastructure and resources to support the proposed doctoral work

- Excellent knowledge of the English language is required for admission to the doctoral programme

### Programme of Study

The programme of study leading to the Ph.D. Degree in Architecture requires the completion of a minimum of 240 ECTS in graduate level courses and research work, as follows:

#### • Graduate Courses (a total of 80 ECTS)

Graduate courses related to the Ph.D. thesis (students with a Diploma degree in Architecture are credited up to 24 ECTS of the required 80 ECTS and students with a Master's degree are credited up to 56 ECTS of the required 80 ECTS).

#### • Ph.D. Thesis Research (160 ECTS)

Students should select, in consultation with their advisors, the courses that will help them in the completion of their Ph.D. thesis. Any undergraduate courses and/or courses outside the Programme of Architecture are recognised only after prior approval by the graduate committee of the Department of Architecture, following a justified petition by the student, signed by his/her academic advisor. In order to comply with the Ph.D. programme requirements, the graduate committee of the Department of Architecture must approve the petition before the student registers for the respective course.

### Ph.D. Thesis

#### Comprehensive Examination

Admission to candidacy for the Ph.D. programme is granted when the student has satisfactorily passed a comprehensive examination (written and oral), intended to evaluate fundamental ability and knowledge in Architecture as well as specialized knowledge and understanding of the intended research area.

The comprehensive examination covers three relevant subject areas from the main areas in Architectural Theory and History, Architectural Communication Media, Architectural Technology and Urban Design. For the written examination a grade of at least 50% in all three areas is required. The oral examination should be taken within six weeks after the written examination.

#### Dissertation Proposal

Doctoral students must prepare a brief written proposal of their intended doctoral research, and make a comprehensive oral presentation on the proposed work before the dissertation committee and a representative from the graduate committee of the Department of Architecture. Students must demonstrate that they have a sound understanding of the dissertation topic, the relevant literature, the methodology to be employed, the issues to be addressed, and the work done on the topic. The presentation of the proposal is conducted two to four semesters after the success in the comprehensive examination.

### Doctoral Dissertation

The doctoral dissertation must address current and valid theoretical, scientific and/or technical issue(s) primarily by fundamental research, leading to the creation of new architecturally specific knowledge. Applied research and development aspects, leading to a prototype or an application of this basic research, may also be included as a secondary component of the dissertation. The research must be novel and original, and of the highest scholarly standards, qualifying it as acceptable for publication in international academic journals.

The intellectual merit of the dissertation must be based on significant research findings by the doctoral candidate, distinguished clearly from the work of others, testifying to the candidate's personal contribution and scholarship, and acknowledging support by others in or outside the University. In addition, the broader impacts of the research must be highlighted in the dissertation, in terms of opening new related areas or issues, and generating new theoretical, and/or technical applications and innovations.

### Dissertation Defence

Each doctoral candidate is required to defend the research during an oral dissertation defence before a five-member Examining Committee.

For more information on the Comprehensive Examination, the Dissertation Proposal, the Doctoral Dissertation and the Dissertation Defence, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894044) or the Department Secretariat.

### Categories of Graduate Courses

Students must successfully take a number of courses that are related to their graduate programme of studies in Architecture that will credit them with the required number of ECTS according to their programme requirements. The following list shows the courses that may be offered from the programme of graduate studies in Architecture depending on the availability, and the educational and research interests of the Faculty.

### List of Courses

#### Constrained Elective Courses

- ARH 500 Research Methodologies
- ARH 502 Design Based Research
- ARH 504 Independent Studies
- ARH 602-609 Ph.D. Research

#### Architectural Theory and History

- ARH 510 Theories of Architecture
- ARH 511 Architecture and the Critical History of Ecology
- ARH 512 Architecture in Philosophy
- ARH 514 Design Applications in Architectural History
- ARH 516 Buildings in History

ARH 518 Theory, History and Criticism

ARH 519 Advanced Topics in Architectural Theory and History

#### Architectural Communication Media

ARH 520 Theoretical Investigations in Visual Communications

ARH 522 Advanced Computer Aided Design Topics

ARH 524 Virtual Reality and the Built Environment

ARH 526 Perception and Cognition in Architecture

ARH 528 Synergy between Visual Arts and Architecture for the Public Sphere

ARH 529 Advanced Topics in Architectural Communication Media

#### Architectural Technology

ARH 530 Advanced Building Technology

ARH 532 Construction Design

ARH 534 Structural Building Design

ARH 536 Advanced Construction Materials Technology

ARH 538 Environmental Building Design

ARH 539 Advanced Topics in Architectural Technology

#### Urban Design

ARH 540 Mediterranean Cities and Social Phenomena

ARH 542 Space Syntax

ARH 544 Urbanism in History

ARH 546 Urban Design and Planning

ARH 548 Landscape Architecture

ARH 549 Advanced Topics in Urban Design

### Course Descriptions

Each course description stipulates any necessary prerequisites and the number of ECTS. The ECTS are followed by three numbers that indicate the hours required for lectures including exercises, labs or studio work and homework (preparation and problem sets), respectively.

### Constrained Elective Courses

#### ARH 500 Research Methodologies

(8 ECTS: 3-0-12)

Foundation course on the diversity of research paradigms in architecture for graduate students in the Ph.D. programme. Introduction to the philosophy of knowledge with an emphasis on architecture. Critical review and evaluation of diverse research methodologies in current architectural research. Students produce a report that critically reviews selected course readings and discussions.

#### ARH 502 Design Based Research

(8 ECTS: 3-10-0)

This course aims to provide a working environment for the Ph.D. candidate and design ideas relevant to the Ph.D. subject. Students select the area of design emphasis depending on their interests while working with a member of the faculty.

#### ARH 504 Independent Studies

(ECTS units assigned by the thesis advisor)

Individual research, laboratory or studio survey under the supervision of the faculty.

### **ARH 602-609 Ph.D. Research**

*(ECTS units assigned by the thesis advisor)*

Graduate research with intermediate reviews. Conception, development and defence of a Ph.D. dissertation.

## **Architectural Theory and History**

### **ARH 510 Theories of Architecture**

*(8 ECTS: 3-0-12)*

Investigation of written architectural theory through specifically architectural works as well as through a wider framework. Interpretation of selected texts from Vitruvius to the twenty-first century. The relationship between theory and the larger social and practiced context of each age. Architectural theories and their implications in relation to tradition, change, innovation and revolution.

### **ARH 511 Architecture and the Critical History of Ecology**

*(8 ECTS: 3-0-12)*

How have concepts of "Nature" and "Environment" influenced architectural thought and practice? This history-theory of architecture course situates the development of ecological awareness, debate and practice in architecture within the larger historical and theoretical context of modern architecture. It covers topics from 19th C back-to-nature movements, to early 20th century community experiments, to mid-twentieth century debates on science, technology, urbanization, postcolonial modernization, and international development, all of which resonate with today's debates on environmental responsibility, and shaped current notions of eco-development, green architecture, sustainability, etc. The course requires basic knowledge of modern architectural history.

### **ARH 512 Architecture in Philosophy**

*(8 ECTS: 3-0-12)*

Consideration of the reciprocal relation between Architecture and Philosophy throughout the historical and geographic spectrum of the western tradition. Discussion of thought from the Pre-Socratics to Husserl, Heidegger, Baudrillard, Merleau-Ponty, Foucault, Ricoeur, Derrida, Deleuze and others in conjunction with developments in Architecture. Architectural theories and their influences on the intellectual advances of various ages.

### **ARH 514 Design Applications in Architectural History**

*(8 ECTS: 3-0-12)*

Study of theoretical approaches to Architectural design from the early modern world to the twenty-first century. Comparative studies between the architectural and intellectual bodies of work and the designed and constructed environment of each epoch. Topics include theories of light, of infinity and of taxonomical and analytical systems, and design ideologies of the sign, of chaos, and of a-formity in the postmodern era.

### **ARH 516 Buildings in History**

*(8 ECTS: 3-0-12)*

In-depth research, analysis and documentation of individual buildings or groups of structures and spaces in local and regional contexts for conservation purposes. Development of critical observation and interpretative skills in the study of past Architectures.

### **ARH 518 Theory, History and Criticism**

*(8 ECTS: 3-0-12)*

Investigation of the variations of contemplative thought on the concept of history from an architectural perspective. Presentation

and comparison of historical contexts and their theoretical and practiced approaches to that which preceded them. Discussion of alternative truths and development of critical attitudes towards the subjective nature of history.

### **ARH 519 Advanced Topics in Architectural Theory and History**

*(8 ECTS: 3-0-12)*

Subjects in this course will vary according to emerging student needs or requests and the educational and research interests of the faculty.

## **Architectural Communication Media**

### **ARH 520 Theoretical Investigations in Visual Communications**

*(8 ECTS: 3-0-12)*

Theory and examination of the role that the visual occupies in art, architecture, cinema and related fields. Search for and discussion of common threads of development and common practices of dissemination in these related but distinct disciplines of cultural production.

### **ARH 522 Advanced Computer Aided Design Topics**

*(8 ECTS: 3-0-12)*

Review of computer aided design and programming techniques. Modelling, visualization and computerized production of architectures. Discussion and presentation of examples such as traditional building structures, large area systems, experimental web environments, and emerging hybrid typologies. Integrated project models including seamless information linkages between designers and manufacturers (CAD/CAM).

### **ARH 524 Virtual Reality and the Built Environment**

*(8 ECTS: 3-0-12)*

Examination of the concept of the virtual within contemporary urban experience. Theoretical engagement of the competition of visual clues with spatial and other signs in the city in the conception and construction of present and future visions of the built. Urban totalities as unavoidably part material and part virtual environments.

### **ARH 526 Perception and Cognition in Architecture**

*(8 ECTS: 3-0-12)*

Investigation of the perceptual and cognitive horizons within the experience of Architecture. Discussion and criticism of binary thought commencing with perception/cognition and engaging wider dualities such as nature/culture, structure/ornament, beauty/taste, etc.

### **ARH 528 Synergies between Visual Arts and Architecture for the Public Sphere**

*(8 ECTS: 3-0-12)*

Examination of synergies between contemporary visual arts and architectural practices advocating for the public sphere. The seminar focuses on collaborative structures between various disciplines that become agents for public engagement emphasizing the political dimension of the urban environment. The students are exposed to best practices both in Cyprus and on an international level and they are invited to redefine their relation to the public domain through such practices and their tools.

### **ARH 529 Advanced Topics in Architectural Communication Media**

*(8 ECTS: 3-0-12)*

Subjects in this course will vary according to emerging student needs or requests and the educational and research interests of the faculty.

## Architectural Technology

### ARH 530 Advanced Building Technology

(8 ECTS: 3-0-12)

Case studies and architectural design analysis derived mainly from structural engineering issues. Introduction to architectural works with emphasis on structural, construction and environmental design aspects. A design project emphasizing structural and construction design is required from each student. Integrated course with CEE graduate Programme.

### ARH 532 Construction Design

(8 ECTS: 3-0-12)

Integration of architectural technology with the process of design and its objectives through construction design. Technology transfer in search of appropriate prototype applications in design projects. Construction detailing.

### ARH 534 Structural Building Design

(8 ECTS: 3-0-12)

Structural systems for special loading cases such as earthquakes and/or long-span structures and tall buildings. Architectural integration and investigation of the structural properties and systems behaviour and efficiency. Case studies analysis and individual design projects.

### ARH 536 Advanced Construction Materials Technology

(8 ECTS: 3-0-12)

Advanced studies in metals, adhesives, glasses, plastics, etc. and their effects on the present and future building industry and environment. Case studies in advanced materials applications and innovative building systems, addressing leading technologies, processes and applications.

### ARH 538 Environmental Building Design

(8 ECTS: 3-0-12)

This course aims to deepen the theoretical and applied knowledge of students on the Environmental Design of Buildings and to highlight the role of the architectural design, construction and appropriate technical support in order to ensure proper living conditions for the users of a building; minimizing energy consumption and reducing adverse environmental impacts.

The course covers issues concerning the Bioclimatic Architecture which aims to improve the comfort conditions of users – thermal, visual, acoustic comfort, air quality – in the indoor built environment; issues that have to do with energy design aiming to the minimization of energy consumption of the building envelope as well as issues of ecological construction regarding the minimization of the ecological footprint.

### ARH 539 Advanced Topics in Architectural Technology

(8 ECTS: 3-0-12)

Subjects in this course will vary according to emerging student needs or requests and the educational and research interests of the faculty.

## Urban Planning

### ARH 540 Mediterranean Cities and Social Phenomena

(8 ECTS: 3-0-12)

*(Sociospatial inequalities, urban conflicts, divided cities)*

The course focuses on the understanding of the ways in which urban social phenomena both influence and are influenced by the morphology and planning of the city. Emphasis will be given on the formulation of novel readings, methodologies and

interpretations of the multiple and complex cultural practices in Mediterranean urban space in an attempt to enrich and broaden knowledge and urban design processes.

### ARH 542 Space Syntax

(8 ECTS: 3-0-12)

Analysis of the spatial characteristics of internal and external space through the use of qualitative and quantitative tools. Case studies in the form of post-occupancy evaluations, comparing the intended with the actual use of different spatial configurations. Subject matter ranges from houses to complex buildings, and from small public squares to large urban entities.

### ARH 544 Urbanism in History

(8 ECTS: 3-0-12)

Examination of specific topics in the history of Urbanism through the study of its intellectual and social context. Focus oscillates between utopian and theoretical to religious and political manifestations of Urban Design. Content and methodology emphasize as well as rely on an inter-disciplinary approach to the subject, and are inclusive, but not exhaustive of, literature, poetry, painting, music, and cinema.

### ARH 546 Urban Design and Planning

(8 ECTS: 3-0-12)

Investigation of planning principles necessary for the communication between architects, urban designers and urban planners when dealing with contemporary urban complexity. Discussion of the complementary nature of Architecture, Urban Design and Urban Planning. Reports and projects of theoretical and applicable proposed models of cooperation in specific cities in Cyprus and surrounding countries and regions.

### ARH 548 Landscape Architecture

(8 ECTS: 3-0-12)

The nature of Nature. Engagement and study of various natural and constructed landscapes. Theory, site analysis and landscape design both in the local as well as the regional urban context. Consideration of themes such as climate, water shortage, topography, geology, natural vegetation and culture in Cyprus and surrounding countries and regions.

### ARH 549 Advanced Topics in Urban Planning

(8 ECTS: 3-0-12)

Subjects in this course will vary according to emerging students' needs or requests and the faculty's educational and research interests. The coursework consists of a workshop and a survey course based on best practices in sustainable urban design and development, with a particular focus on the challenges facing the Eastern Mediterranean region. The coursework is organized in the form of a workshop and includes thematic presentations, the analysis of cases studies, role playing and visioning exercises and a final master-planning exercise in a location to be specified by the instructor.

### ARH 550 Special Topics on Recording and Documenting Buildings and Sites

(8 ECTS: 3-0-12)

The course provides basic and advanced knowledge on recording and documenting buildings and sites using conventional and contemporary digital techniques. It aims at introducing research tools and methodological approaches of in-situ recording and documenting of buildings and urban sites, as well as individual structural and morphological building elements, while it includes methodologies for the classification, evaluation and processing of monitoring data. Moreover, the course refers to the recording and analysis of the indoor comfort

and energy efficiency of building envelopes as well as to the recording of environmental data of the external environment. Among others, it refers to the recording of functional particularities and / or to specific comfort requirements of the buildings under examination, while it includes quantitative recordings and analysis of the parameters defining thermal and visual comfort conditions.

## Research Courses

### ARH 610-611 Writing Stage

*(ECTS units assigned by the Thesis Advisor)*

Writing stage of the dissertation.

### ARH 613 Dissertation Proposal (0 ECTS)

Comprehensive oral presentation on the proposed work before the Dissertation Committee.

### ARH 700 Comprehensive Examination (0 ECTS)

Comprehensive Examination (written and oral), intended to evaluate fundamental ability and knowledge in Architecture as well as specialized knowledge and understanding of the intended research area.

## Research Interests of the Academic Staff

### • Nadia Charalambous, Assistant Professor

Her research interests focus on two areas: a) academic teaching and the education of an architect b) space, ethnicity and culture in dwellings, settlements and urban arrangements (socio-spatial forms of cultural heritage, spatio-temporal definition and interpretation of domestic experience). Underpinning all research and professional activities is a continuous interest in the socio-spatial, and more recently also temporal, dimensions of society and culture.

### • Christos Hadjichristos, Associate Professor

His research interests include Architectural Theory, the nature of architectural education and knowledge, Architectural Design, design studio, the nature of architectural culture and practice, domestic architecture, architectural and urban spatial configurations and social praxis, the current and potential relationship between Structural and Architectural Design and the aging of architectural projects.

### • Odysseas Kontovourkis, Assistant Professor

His research interests focus on the integration of computational design with robotic fabrication strategies, aiming to optimize the architectural design and construction according to the criteria of sustainability. Particularly, he explores issues related to the introduction and the active involvement of robots during the manufacturing process and their impact on the economy and ecology of solutions. Also, he examines matters concerning the domain of Computer-aided Design/Computer-aided Manufacturing (CAD/CAM), Parametric Design and Physics-based Computer Modeling with emphasis on Pedestrian Movement Behavior Modeling. Finally, he deals with issues related to the adaptation and interaction in architectural systems as well as the Theory of Design process and the use of computers.

### • Aimilios Michael, Lecturer

His research activities have an interdisciplinary view and focuses on the areas of Energy and Environmental Design of Buildings and Architectural Technology. His research priorities include

Integrated Architectural Design and Technology, Energy & Environmental Design of Buildings on Contemporary and Vernacular Architecture, Advanced Building Envelope Design, Innovative & Sustainable Construction Components and Materials.

### • Maria Philokyprou, Assistant Professor

Her research activities cover the areas of Vernacular Architecture and Conservation. Her main research interests include: vernacular architecture of Cyprus, architectural conservation, preservation and promotion of the built environment, environmental features of vernacular architecture, traditional architectural technology, analysis of traditional building materials and methods of construction and design of new materials that are "friendly" to man and the environment.

### • Marios C. Phocas, Associate Professor

His teaching and research activities cover the areas of Integrated Architectural Design, Building Technology, Kinetic Structures and Earthquake Resistant Structural Building Design, Structural Control and Earthquake Isolation.

### • Panayiota Pyla, Associate Professor

Her research has an interdisciplinary scope and focuses on two areas: a) the History and the Theory of Modern Architecture and Urbanism, especially in the Eastern Mediterranean region; and b) the interrelated discourses of modern architecture, development and environmentalism.

### • Andreas L. Savvides, Assistant Professor

He is interested in sustainable design and development practices leading to the densification and regeneration of underperforming and underutilized urban cores. His approach to the field looks at both the environmental and the cultural factors pertaining to sustainable urban design and development with a focus on transit oriented development.

### • Socrates Stratis, Associate Professor

His research focuses on the political dimensions of architecture in uncertain, as well as contested Contemporary Urban Environments. Moreover, he focuses on the strategic value of "Architecture-as-Urbanism", and on social practices of "Architecture's Spatial Agencies". He emphasizes on methods with which architectural practice incorporates political issues in a creative way and seeks a role within a broader system of urban actors.

## Contact Details

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# Department of Civil and Environmental Engineering

*The Department admits students each year into its graduate programmes at the Master (M.Sc. and M.Eng.) and Doctoral (Ph.D.) levels, offering the following six graduate degrees:*

• *Master of Science (M.Sc.) in Civil Engineering*

*Specializing in:*

- 1. Earthquake Engineering*
- 2. Structural Analysis*
- 3. Novel and Traditional Building Materials*
- 4. Geotechnical Engineering*
- 5. Construction and Transport Infrastructure Management*

• *Master of Science (M.Sc.) in Environmental Engineering*

• *Master of Engineering (M.Eng.) in Civil Engineering*

*Specializing in:*

- 1. Earthquake Engineering*
- 2. Structural Analysis*
- 3. Novel and Traditional Building Materials*
- 4. Geotechnical Engineering*
- 5. Construction and Transport Infrastructure Management*

• *Master of Engineering (M.Eng.) in Environmental Engineering*

• *Doctor of Philosophy (Ph.D.) in Civil Engineering*

• *Doctor of Philosophy (Ph.D.) in Environmental Engineering*

## **Introduction**

Civil and Environmental Engineering plays a significant role in building modern society. The field of civil and environmental engineering encompasses the design, construction, management and maintenance of the infrastructure on which society relies. In addition to the buildings in which we live and work, the roads and the bridges we use every day, society depends on civil and environmental engineers for providing clean water, energy, waste management and to protect the natural environment.

The Department of Civil and Environmental Engineering (CEE) provides high quality degree programmes at both undergraduate and postgraduate levels. These programmes emphasize fundamental principles that prepare young engineers concerned with the challenges of meeting society's needs in a rapidly changing environment. CEE students undertake investigation, research, planning and design in an academic environment that is based on cooperation between faculty, students, industry, research and professional organisations. The students study in a dynamic environment and have the opportunity to work with and learn from research teams at the forefront of knowledge.

The aim of the graduate programmes of the CEE Department is to promote scholarly research leading to discovery, learning and innovation according to international standards of excellence, in the broader discipline of CEE, as well as in related multi-disciplinary and interdisciplinary fields. The department's graduate programmes are research-oriented in order to support and strengthen the research and educational activities of the Department and the University. The research focuses on areas that serve the interests of Cypriot society, by identifying and providing solutions to local issues and by promoting opportunities for local development and for the improvement of life in Cyprus.

## **Research Areas**

The major research areas of the CEE Department are the following:

- Materials and Mechanics
- Structural and Earthquake Engineering

- Construction Management
- Computational Mechanics
- Computer-Aided Civil Engineering
- Geomechanics
- Transportation Systems
- Management of Water Resources
- Wastewater Treatment and Management
- Environmental Pollution Control
- Environmental Management Systems

### Financial Support

The CEE Department supports several graduate students through scholarships, teaching assistantships, and research grants.

### Master's Programmes (M.Sc., M.Eng.)

The CEE Department offers two levels of graduate studies at the Master's level, namely, the Master of Engineering (M.Eng.) and the Master of Science (M.Sc.) in Civil Engineering or Environmental Engineering, with the Masters of Science focusing on research, having a smaller number of courses to attend and placing emphasis upon the completion of a research thesis with higher demands. A transfer between the two academic tracks is allowed only after an application by the student and approval by the Departmental Board. The Department also reserves the right to mandate a student transfer between the two academic tracks (from M.Sc. to M.Eng.) if the student's academic performance during the required M.Sc. research/thesis is unsatisfactory, and his/her advisor recommends it.

### Civil Engineering: Specializations

The Master of Engineering and Master of Science (M.Eng. and M.Sc. respectively) in Civil Engineering is offered in five thrusts of specialization as listed below; to specialize in any of these areas the graduate must fulfill certain course and research work requirements :

1. Earthquake Engineering
2. Structural Analysis
3. Novel and Traditional Building Materials
4. Geotechnical Engineering
5. Construction and Transport Infrastructure Management

More specifically, for the Master of Engineering and Master of Science Degrees (M.Eng. and M.Sc.) courses are grouped in four categories from which each student

must successfully attend a specific number in order to fulfill the requirements of the specialty thrust selected, as follows:

Categories	Description
A	Core Specialization Graduate Courses
B	Elective Specialization Graduate Courses
C	CEE Graduate Courses other than those in Categories A and B
D	UCY Graduate Courses

For the Master of Engineering and Master of Science Degrees (M.Eng. and M.Sc.) in Civil Engineering, for each of the five thrusts, a number of successfully completed courses is required, as follows:

Courses:	A	B	C	D
M.Eng.	≥5	≥3	≤1	≤1
M.Sc.	≥ 4	≥1	≤1	

Therefore, completion of an M.Eng. Degree in Civil Engineering in any particular thrust which requires successful passing of 10 graduate courses, the requirements correspond to at least 5 graduate courses from group A and at least 3 graduate courses from group B, while up to 1 course is allowed from group C and up to 1 course from group D, as specified for the particular thrust of specialization. For example, a student could take 6 courses from group-A and 4 courses from group B, or 5 courses from group-A, 4 courses from group-B and 1 course from group C or D, as specified for the particular specialization.

Respectively, for a Master of Science in Civil Engineering, which is more research-oriented and requires only 7 successfully completed graduate courses, at least 4 graduate courses are required from group-A, at least 1 graduate course is required from group-B and up to 1 graduate course is required either from group C or D, as defined for each thrust. For example, a student could select 5 graduate courses from category-A and 2 courses from group-B, or 4 courses from group-A, 2 courses from group-B and 1 course either from group C or D.

### Environmental Engineering

For the Master of Engineering and Master of Science (M.Eng. and M.Sc.) in Environmental Engineering 10 and 7 graduate courses respectively, must be successfully completed, while only one of these courses cannot be part of the course-catalogue for Environmental Engineering. After approval given by the student's Research Supervisor, a second course that is not included in the catalogue can be taken.

### Admission to the Master's Programmes

Applicants to the Master's programmes must possess the equivalent of a B.Sc. Degree in Civil and/or Environmental Engineering, or in a related field of science or engineering, from the University of Cyprus or other accredited institution or programmes.

Candidates must submit an application to the Department of Civil and Environmental Engineering within a specific time frame. Details on the application procedure and the evaluation of the candidates, see the Admission and Attendance Regulations – Application Requirements or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

In addition to the general admission requirements, the Department requests from the applicant a statement on his/her goals and objectives, an intended focus area and expectations from the graduate studies and other supportive documentations regarding the applicant's qualifications.

Applications are evaluated by the Graduate Committee of the CEE Department which makes suggestions to the Departmental Board for final approval of the selected candidates. Applicants to the Master's programme are selected according to the following criteria, while the CEE Department reserves its right to fill only as many announced graduate student positions as the Department considers appropriate:

- Quality of the applicant's background in breadth and depth, and past performance in undergraduate or graduate studies
- Evidence of ability for original and innovative research in the proposed area of study
- Relevance of the proposed field of research to the interests of the Department, the University and the society
- Availability of graduate positions in the programme and the necessary infrastructure and resources to support the proposed M.Sc. research work
- Good knowledge of the English language

### MASTER OF SCIENCE DEGREE (M.Sc.)

The M.Sc. Degree is awarded to graduate students of the Department of Civil and Environmental Engineering upon successful completion of the required number of courses and ECTS units according to the graduate programme of studies, and upon writing and presenting a successful defence of the M.Sc. thesis. The student is awarded either an M.Sc. Degree in Civil Engineering, or an M.Sc. Degree in Environmental Engineering depending on the research area of the student's thesis.

The minimum duration of the M.Sc. programme for full-time students in Civil and Environmental Engineering is three semesters, including the summer between the two academic years. The maximum duration allowed for completion of the M.Sc. degree is eight semesters.

### Programme of Studies for the M.Sc. Degree

The programme of studies at the University of Cyprus is based on the European Credit Transfer and Accumulation System (ECTS). The programme of study leading to the M.Sc. degree in Civil Engineering and M.Sc. degree in Environmental Engineering requires the completion of at least 110 ECTS of graduate course, seminars and research work beyond the Bachelors degree, distributed as follows:

	ECTS
<b>Coursework</b>	<b>56</b>
– Graduate Courses (56 ECTS)	
– CEE 610 Graduate Seminar (8 attendances) (0 ECTS)	
<b>Thesis Research (CEE 680)</b>	<b>54</b>
<b>Total</b>	<b>110</b>

The course "Independent Study" (CEE 650) can be counted as one graduate course for the specializations in Civil Engineering or for Environmental Engineering (Annex-3) and must focus on a different topic than the M.Sc. research. For the M.Sc. in Civil Engineering the "Independent Study" may be counted for any specialization as a course of group A or B. A student may be credited with a maximum of 8 ECTS under the "Independent Study" course. If a student has successfully attended graduate courses in the framework of another postgraduate program, they can be credited with up to 16 ECTS provided that these courses have not been taken into consideration in order to acquire another postgraduate title.

### Master of Science (M.Sc.) Thesis

The M.Sc. Degree requires the successful completion of original research work and a corresponding M.Sc. Thesis (CEE 680), which should be successfully presented and examined. The topic of the student's research is chosen in consultation with his/her Advisor (Supervisor) of the Thesis. The student must submit copies of the Thesis to the members of the Thesis Committee at least 1 week prior to its defense. The Thesis Defense is open to the public and consists of a presentation by the candidate which should not be longer than 30 minutes, followed by an open discussion and a closed session with the Thesis Committee. The Thesis Committee is responsible for approving the candidate's Thesis and Defense Presentation and in the event that these are deemed inadequate, the Committee will suggest the appropriate

revisions to the Thesis and a corresponding timeline for the candidate to make/complete those revisions.

For the completion of this process, the candidate should submit two original copies of the Thesis (one for the CEE Department records and one for the University of Cyprus Library) bound and signed in accordance with the University regulations, as well as one electronic copy of the thesis for dissemination purposes.

If the thesis is rejected, the candidate may request a second opportunity to defend his/her research. In that case, the time and terms for resubmission and defense are determined by the Thesis Committee in writing.

M.Sc. Theses may be graded as “Excellent”, “Very Good”, “Good” or “Inadequate”. The intellectual merit of the Thesis must be based on research findings by the M.Sc. candidate, distinguished clearly from the work of others, testifying to the candidate’s personal contribution and acknowledging support by others within or outside the University.

### Research Advisor (Supervisor)

After the M.Sc. student and his/her Supervisor have mutually agreed to pursue their research collaboration, the student must submit a memorandum of understanding to the Graduate Studies Committee, signed by the Academic Advisor who has taken the student under his/her supervision. The Academic Advisor supervises the student’s research or other work and offers the necessary guidance. The Academic Advisor is also responsible for recommending the members of the student’s Thesis Committee to the Department’s Faculty Council for approval, through the Graduate Studies Committee. The Thesis Committee consists of the Thesis Advisor as the head of the Committee and at least another faculty member either from within or outside the University of Cyprus. External Committee members can only be faculty members of other accredited Institutions or Research Centers or other qualified experts holding a Ph.D. Degree.

For more information on the procedure of submitting and defending the thesis, see the Admission and Attendance Regulations – Application Requirements or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

### Indicative Programme of Studies

The following programme of studies for the Master of Science in Civil Engineering or in Environmental Engineering (M.Sc.) may be completed in 1.5 academic years, provided that students undertake their research during the summer months between the second and third academic semesters.

	ECTS
<b>First Semester (Fall)</b>	
4 Graduate Courses (4x8)	32
<b>Total</b>	<b>32</b>
<b>Second Semester (Spring)</b>	
3 Graduate Courses (3x8)	24
CEE 680-683 M.Sc. Research	6
<b>Total</b>	<b>30</b>
<b>Summer</b>	
CEE 680-683 M.Sc. Research	17
<b>Total</b>	<b>17</b>
<b>Third Semester (Fall)</b>	
CEE 610 Graduate Seminar	0
CEE 680 M.Sc. Research	31
<b>Total</b>	<b>31</b>

### MASTER OF ENGINEERING DEGREE (M.Eng.)

The degree of Master of Engineering (M.Eng.) in Civil Engineering in one of the aforementioned specializations, or Master of Engineering (M.Eng.) in Environmental Engineering is awarded to graduate students of the Department of Civil and Environmental Engineering upon successful completion of the M.Eng. programme of studies, depending on the nature of the graduate courses the student has completed.

### Programme of Studies for the M.Sc. Degree

The required workload for the Master of Engineering in either Civil or Environmental Engineering corresponds to the successful completion of 90 ECTS of graduate courses and seminars as follows:

	ECTS
<b>Coursework</b>	<b>80</b>
– Graduate Courses (80 ECTS)	
– CEE 610 Graduate Seminar (8 attendances) (0 ECTS)	
<b>Research Project (CEE 689)</b>	<b>10</b>
<b>Total</b>	<b>90</b>

### Indicative Programme of Studies

The following programme of studies for the Master of Engineering in Civil Engineering or in Environmental Engineering (M.Eng.) may be completed in 1.5 academic years.

	ECTS
<b>First Semester (Fall)</b>	
4 Graduate Courses (4x8)	32
<b>Total</b>	<b>32</b>

<b>Second Semester (Spring)</b>	
4 Graduate Courses (4x8)	32
<b>Total</b>	<b>32</b>
<b>Third Semester (Fall)</b>	
2 Graduate Courses (2x8)	16
CEE Graduate Seminar 0	
CEE 689 Research Project	10
<b>Total</b>	<b>26</b>

### DOCTOR OF PHILOSOPHY DEGREE (Ph.D.)

A graduate student is awarded a doctorate degree by the Department of Civil and Environmental Engineering upon completion of the required programme of study and successful writing and defence of a Ph.D. thesis. Depending on the research area of the thesis, the student is awarded either a Ph.D. in Civil Engineering, or a Ph.D. in Environmental Engineering.

### Admission to the Ph.D. Programme

The applicants to the Ph.D. programme must possess the equivalent of a B.Sc. or M.Sc. degree in Civil and/or Environmental Engineering, or in a related field of science or engineering, from the University of Cyprus or another accredited university.

Candidates must submit an application to the Department of Civil and Environmental Engineering within the announced time limits. For more information on the application procedure and the evaluation of the candidates, please refer to the Admission and Attendance Regulations – Application Requirements or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

In addition to the general requirements, candidates are requested to submit a statement of purpose detailing their motivation, goals and objectives, an intended focus area and expectations from the doctoral studies, three letters of recommendation from Academics familiar with their past work and future promise, as well as other supportive documentation as evidence of their academic qualifications.

Applications are evaluated by the Graduate Committee of the CEE Department and the selection criteria are the same as for the M.Sc. or M.Eng. programmes (see relevant paragraph above).

### Programme of Study

The programme of study leading to a Ph.D. in Civil or Environmental Engineering requires the successful completion of at least 240 ECTS, through a combination of graduate courses, seminars and research work. The minimum length of study for full-time students is six

academic semesters and the maximum allowable length of study is eight academic years.

The 240 ECTS required for the Ph.D. degree are distributed as follows:

	ECTS
<b>Coursework</b>	<b>80</b>
– Graduate Courses in CEE related to the Ph.D. Programme (48 ECTS)	
– Graduate Courses in/outside CEE programme (32 ECTS)	
– CEE 610 Graduate Seminar (16 attendances) (0 ECTS)	
<b>Thesis Research (CEE 690)</b>	<b>160</b>
<b>Total</b>	<b>240</b>

Courses from the first course group (Graduate CEE courses related to the Ph.D. research) should all be from the list of courses relevant to the degree sought (civil engineering or environmental engineering).

The course “Independent Study” (CEE 650 or CEE 651) counts as a course of the second category (Graduate courses in/outside CEE programs) and must focus on a different topic than the Ph.D. research. A maximum of 8 ECTS of “Independent Study” may be credited towards the Ph.D. Degree. Courses outside the CEE department may be selected but only after approval from the student’s Academic Advisor.

Students who have joined the doctoral programme after successfully completing a relevant Master’s programme can be credited with a maximum of 56 ECTS for graduate courses that they have successfully attended previously. These 56 ECTS count towards the fulfillment of the required 80 ECTS coursework. The maximum number of ECTS that can be credited to students with a graduate degree in Civil or Environmental Engineering is 56, while the maximum number of ECTS that can be credited to students with a graduate degree in other fields of study is 32. The crediting of ECTS is not automatic; it is subject to the approval of the Department’s Council based on recommendations made by the CEE Graduate Studies Committee. The committee’s recommendations follow a well-documented petition by the student and relevant recommendation by his academic advisor. For the fulfillment of the required 80 ECTS coursework, the student must choose and successfully attend courses that are not the same or similar with those credited from previous studies.

Students should select, in consultation with their Advisors, the courses that will help them toward the completion of their Ph.D. Thesis. Graduate courses from outside the CEE Department may be accepted subject to prior approval from the CEE Graduate Studies Committee and upon application by the student which has been approved by his Advisor. In order for the selected courses

to count towards the requirements of the Ph.D. programme, the CEE Graduate Studies Committee must approve the petition before the student registers for the respective courses.

### Qualifying Examination

Admission to candidacy for the Ph.D. programme is actually granted when the student has successfully passed a written qualifying examination, which intends to assess fundamental knowledge and ability in Civil or Environmental Engineering, as well as more specialized knowledge and understanding of the intended research area.

The topics in the qualifying examination cover three areas of study and are set by at least three faculty members with equal score weight (1/3) for each topic. The weight per member of the Qualifying Exam Committee in the total score of an exam should not exceed 40%. The Ph.D. candidates' written solutions of the exam questions are evaluated by the Qualifying Exam Committee. The areas of study examined and the Qualifying Exam Committee for each candidate are assigned by the Department's Council upon recommendation from the CEE Graduate Studies Committee based on a written application by the candidate's Academic Advisor. The CEE Graduate Studies Committee should ensure that the topics per examination area and student are of equal depth and level of difficulty at each examination period. The qualifying exam lasts for 4 hours. The results of a candidate's qualifying exam are considered successful when the candidate earns a total score of at least 60%. In the event of not meeting the 60% minimum passing grade, a Ph.D. candidate is allowed to retake the exam one more time prior to the completion of the 5th academic semester of study in the PhD program. In this re-examination, the student has the right to be examined only in those areas where the score attained in the first examination was less than 50%, provided that a score of at least 40% was obtained in all areas. Hence, the student has the right to transfer to the re-examination those scores that are  $\geq 50\%$  from the first examination in one or two of the areas examined, provided that all three scores obtained in the first examination were  $\geq 40\%$ .

The exam is given in the beginning of the fall and spring semesters (it is usually scheduled during the second week from the start of each academic semester).

### Dissertation Proposal

Each doctoral student must prepare a brief written proposal of the intended Doctoral Research and make a comprehensive oral presentation on the proposed work that demonstrates a sound understanding of the dissertation topic, awareness in depth of the relevant

literature and applies the research methodology that is necessary. The proposal presents the work done on the topic by the student to-date as well as the intended steps to be taken toward the completion of the doctoral Thesis.

The proposal must be scheduled according to the Regulations of Graduate Studies. The written proposal must be submitted to the candidate's three-member Doctoral Examination Committee at least one week before the date of the examination. This Committee is assigned for each candidate by the Department's Council upon recommendation by the CEE Graduate Studies Committee, based on a written petition by the candidate's Academic Advisor. One of the Committee's members may be from another Academic Department of the University of Cyprus in a field of study relevant to the doctoral candidate's Thesis research, or from another University, or Research Center. The oral presentation given to the three-member Doctoral Examination Committee should not exceed the time limit of 30 minutes and is followed by a discussion with the Committee members. If the Committee members have concerns about either the substance of the proposal or the student's understanding of the topic, then the student will prepare a second presentation that focuses on the areas of concern. The second presentation has a tentative duration of 15 minutes and is followed by a new discussion with the Committee members. Students can continue their research only if the proposal is approved.

### Doctoral Dissertation

The Doctoral Degree requires the successful completion of original research work and a Thesis. A doctoral candidate's research topic is selected in collaboration with the candidate's Academic Advisor. The level of quality of doctoral Theses is warranted through the fulfillment and satisfaction of basic conditions as these are stated by the University's Senate (Rules of Study and Student Issues of the University of Cyprus and Graduate Studies Regulations). It is therefore imperative that all doctoral students study these guidelines carefully.

### Dissertation Defense

Each doctoral candidate is required to defend the originality and quality of his/her research during an oral dissertation defense which is administered by the Examination Committee consisting of at least 5 members. This Committee is assigned by the Department's Council upon recommendation of the Department's Graduate Studies Committee in consultation with the candidate's Academic Advisor. The Examination Committee includes three CEE faculty members (one of which is the candidate's Academic Advisor), one member from another University or Research Institute and one member from the faculty of another department of the University

who has relevant knowledge to the Ph.D. research topic or from another University or Research Institute. The Examination Committee is chaired by a member of the CEE Department, but not the Thesis Advisor.

The candidate is required, at least one month prior to the thesis defense, to submit a copy of the dissertation to each member of the Examination Committee. At the same time, the candidate must make an additional copy available to any member of the University Community wishing to read the dissertation prior to the defense and must also arrange for the issuance of a public notification of the upcoming defense by the CEE Graduate Studies Committee.

A thesis defense consists of three stages: (a) a public presentation of the Doctoral Research work by the candidate with a maximum duration of 60 minutes which is followed by public discussion (b) a discussion on the Thesis work with the Examination Committee members and (c) a concluding closed session of the Examination Committee for making a collective assessment of the doctoral work.

The examining committee will determine the acceptability of the candidate's dissertation and oral performance, and propose modifications to the written dissertation if appropriate, as well as a time plan for the candidate to address such changes in mutual agreement with the Thesis Advisor.

Upon the completion of the candidate's doctoral defense, the Examination Committee submits in writing to the CEE Chairman its justified recommendation together with possible comments on the candidate's Thesis. The Chairman forwards the Committee's recommendation to the University Senate for approval. In the event that the Examination Committee recommends modifications or improvements to the doctoral Thesis in question, final approval by the Senate is granted only after the Academic Advisor confirms in writing the successful compliance to the Committee's comments. The candidate must then submit two original hard copies of the dissertation, one to the University library and one for the CEE Department records, as well as an electronic version of the dissertation to the CEE Department for documentation and dissemination. If the dissertation is rejected, the candidate is entitled to request a repetition of the defense one more time. In this case, the terms for resubmission of the dissertation must be set out in writing by the Examination Committee.

For more information on the procedures for the Comprehensive Examination, the Dissertation Proposal, the Doctoral Dissertation, the Dissertation Defence and the composition of the Committees, please refer to the Admission and Attendance Regulations – Application

Requirements or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

## Graduate Level Courses

Students must successfully take a number of courses related to their graduate programme of study, i.e., civil or environmental engineering, that will credit them with the required number of ECTS according to their programme requirements. The following tables indicate the two groups of courses that correspond to civil and environmental engineering, from which students may select the relevant courses. The related Tables also define the courses of categories A and B with regards to the five specializations of the Civil Engineering Degrees.

## Civil Engineering Courses

CEE 500	Engineering Applications with Software Development
CEE 501	Advanced Computer-Aided Structural Analysis
CEE 509	Computational Mechanics
CEE 511	Construction Engineering and Management
CEE 512	Risk Analysis in Civil and Environmental Engineering
CEE 513	Specifications and Conditions of Construction Contracts
CEE 515	Advanced Topics in Construction Management
CEE 516	Building Information Models
CEE 517	Operations Research in Civil and Environmental Engineering
CEE 521	Structural Dynamics and Earthquake Engineering
CEE 522	Advanced Topics in Earthquake Engineering
CEE 523	Passive and Active Control of Structural Systems
CEE 526	Finite Element Methods
CEE 528	Advanced Topics in Structural Analysis
CEE 531	Seismic Behavior and Assessment of Reinforced Concrete Structures
CEE 532	Advanced Technology of Materials
CEE 533	Local and Traditional Building Materials
CEE 534	Physical Properties and Related Durability Problems of Construction Materials
CEE 535	Plasticity Theory
CEE 536	Energy Efficiency of Buildings
CEE 537	Rehabilitation and Strengthening of Structures
CEE 538	Experimental Methods in Structural Engineering
CEE 539	Advanced Topics in Novel and Traditional Construction Materials
CEE 540	Behavior and Design of Reinforced Concrete Structures
CEE 543	Bridge Engineering
CEE 545	Nonlinear Structural Analysis
CEE 546	Building Physics
CEE 547	Masonry Structures
CEE 555	Soil Dynamics and Engineering Seismology
CEE 556	Advanced Foundation Engineering
CEE 557	Coastal and Offshore Geotechnical Engineering
CEE 558	Advanced Topics in Geotechnical Engineering

CEE 560 Advanced Transport Planning  
 CEE 561 Highway Design and Road Safety  
 CEE 562 Asphalt Materials  
 CEE 563 Advanced Topics in Traffic Engineering and Intelligent Transport Systems-ITS  
 CEE 564 Civil/Transport Economics and Finance  
 CEE 565 Multi-Modal Systems and Logistics  
 CEE 566 Transit Systems  
 CEE 567 Advanced Topics in Transport Infrastructure  
 CEE 574 Environmental Geotechnics  
 CEE 586 Sustainable Built Environment  
 CEE 650 Independent Study

## 1. Earthquake Engineering

### Category-A (Basic Courses)

CEE 501 Advanced Computer-Aided Structural Analysis  
 CEE 521 Structural Dynamics and Earthquake Engineering  
 CEE 522 Advanced Topics in Earthquake Engineering  
 CEE 523 Passive and Active Control of Structural Systems  
 CEE 531 Seismic Behavior and Assessment of Reinforced Concrete Structures  
 CEE 537 Rehabilitation and Strengthening of Structures  
 CEE 545 Nonlinear Structural Analysis  
 CEE 555 Soil Dynamics and Engineering Seismology

### Category-B (Relevant Courses)

CEE 500 Engineering Applications with Software Development  
 CEE 512 Risk Analysis in Civil and Environmental Engineering  
 CEE 526 Finite Element Methods  
 CEE 528 Advanced Topics in Structural Analysis  
 CEE 532 Advanced Technology of Materials  
 CEE 533 Local and Traditional Building Materials  
 CEE 535 Plasticity Theory  
 CEE 538 Experimental Methods in Structural Engineering  
 CEE 540 Behavior and Design of Reinforced Concrete Structures  
 CEE 543 Bridge Engineering  
 CEE 547 Masonry Structures  
 CEE 556 Advanced Foundation Engineering

*Course categories: A – Basic, B – Relevant, C – CEED, D – UCY*

## 2. Structural Analysis

### Category-A (Basic Courses)

CEE 501 Advanced Computer-Aided Structural Analysis  
 CEE 509 Computational Mechanics  
 CEE 512 Risk Analysis in Civil and Environmental Engineering  
 CEE 521 Structural Dynamics and Earthquake Engineering  
 CEE 526 Finite Element Methods  
 CEE 528 Advanced Topics in Structural Analysis  
 CEE 535 Plasticity Theory  
 CEE 545 Nonlinear Structural Analysis

### Category-B (Relevant Courses)

CEE 500 Engineering Applications with Software Development

CEE 522 Advanced Topics in Earthquake Engineering  
 CEE 523 Passive and Active Control of Structural Systems  
 CEE 531 Seismic Behavior and Assessment of Reinforced Concrete Structures  
 CEE 532 Advanced Technology of Materials  
 CEE 537 Rehabilitation and Strengthening of Structures  
 CEE 540 Behavior and Design of Reinforced Concrete Structures  
 CEE 543 Bridge Engineering  
 CEE 547 Masonry Structures  
 CEE 555 Soil Dynamics and Engineering Seismology  
 CEE 556 Advanced Foundation Engineering

*Course categories: A – Basic, B – Relevant, C – CEED, D – UCY*

## 3. Novel and Traditional Construction Materials

### Category-A (Basic Courses)

CEE 532 Advanced Technology of Materials  
 CEE 533 Local and Traditional Building Materials  
 CEE 534 Physical Properties and Related Durability Problems of Construction Materials  
 CEE 538 Experimental Methods in Structural Engineering  
 CEE 539 Advanced Topics in Novel and Traditional Construction Materials  
 CEE 546 Building Physics  
 CEE 547 Masonry Structures  
 CEE 562 Asphalt Materials

### Category-B (Relevant Courses)

CEE 531 Seismic Behavior and Assessment of Reinforced Concrete Structures  
 CEE 526 Finite Element Methods  
 CEE 535 Plasticity Theory  
 CEE 536 Energy Efficiency of Buildings  
 CEE 537 Rehabilitation and Strengthening of Structures  
 CEE 543 Bridge Engineering  
 CEE 540 Behavior and Design of Reinforced Concrete Structures  
 CEE 586 Sustainable Built Environment

*Course categories: A – Basic, B – Relevant, C – CEED, D – UCY*

## 4. Geotechnical Engineering

### Category-A (Basic Courses)

CEE 509 Computational Mechanics  
 CEE 526 Finite Element Methods  
 CEE 535 Plasticity Theory  
 CEE 555 Soil Dynamics and Engineering Seismology  
 CEE 556 Advanced Foundation Engineering  
 CEE 557 Coastal and Offshore Geotechnical Engineering  
 CEE 558 Advanced Topics in Geotechnical Engineering  
 CEE 574 Environmental Geotechnics

### Category-B (Relevant Courses)

CEE 500 Engineering Applications with Software Development  
 CEE 534 Physical Properties and Related Durability Problems of Construction Materials  
 CEE 511 Construction Engineering and Management

CEE 512 Risk Analysis in Civil and Environmental Engineering  
 CEE 521 Structural Dynamics and Earthquake Engineering  
 CEE 538 Experimental Methods in Structural Engineering  
 CEE 543 Bridge Engineering  
 CEE 562 Asphalt Materials  
*Course categories: A – Basic, B – Relevant, F – CEED, Δ - UCY*

## 5. Construction and Transport Infrastructure Management

### Category-A (Basic Courses)

CEE 511 Construction Engineering and Management  
 CEE 516 Building Information Models  
 CEE 517 Operations Research in Civil and Environmental Engineering  
 CEE 560 Advanced Transport Planning  
 CEE 563 Advanced Topics in Traffic Engineering and Intelligent Transport Systems-ITS

### Category-B (Relevant Courses)

CEE 512 Risk Analysis in Civil and Environmental Engineering  
 CEE 513 Specifications and Conditions of Construction Contracts  
 CEE 515 Advanced Topics in Construction Management  
 CEE 543 Bridge Engineering  
 CEE 561 Highway Design and Road Safety  
 CEE 562 Asphalt Materials  
 CEE 564 Civil/Transport Economics and Finance  
 CEE 565 Multi-Modal Systems and Logistics  
 CEE 566 Transit Systems  
 CEE 567 Advanced Topics in Transport Infrastructure  
 CEE 581 Environmental Risk Assessment  
*Course categories: A – Basic, B – Relevant, F – CEED, Δ - UCY*

## Environmental Engineering Courses

CEE 500 Engineering Applications with Software Development  
 CEE 512 Risk Analysis in Civil and Environmental Engineering  
 CEE 534 Physical Properties and Related Durability Problems of Construction Materials  
 CEE 536 Energy Efficiency of Buildings  
 CEE 571 Computational Hydraulics  
 CEE 572 Groundwater Hydrology  
 CEE 574 Environmental Geotechnics  
 CEE 576 Environmental Fluid Mechanics  
 CEE 580 Dynamics of the Atmosphere and Air Pollution Dispersion  
 CEE 581 Environmental Risk Assessment  
 CEE 582 Solid and Hazardous Waste Management  
 CEE 583 Physicochemical and Biological Processes for the Treatment of Wastewater  
 CEE 584 Advanced Topics in Environmental Engineering  
 CEE 585 Experimental Methods in Water and Wastewater Analysis and Treatment  
 CEE 586 Sustainable Built Environment  
 CEE 596 Renewable Energy Sources Management  
 CEE 650 Independent Study

## Course Descriptions

The Department reserves the right to modify the following list of courses, to expand or discontinue course offerings, and to amend the contents of existing courses as needed in an effort to further improve the CEE curriculum. The course listing provides a brief description of the topics covered in each course and the ECTS allocated to the course. After the number, name and description of each course, there is an indication of any prerequisites required and the number of ECTS the course carries. The ECTS are followed by three numbers that indicate the hours required for lectures, labs and homework (preparation and problem sets), respectively.

### CEE 500 Engineering Applications with Software Development (8 ECTS)

From Procedure-Oriented to Object-Oriented Programming (OOP). OOP with Java. Development of OOP Software for Solving Engineering Problems Utilizing Classes and Objects, Inner and Anonymous Classes, Interfaces, Inheritance and Polymorphism. Webpage Development Including Java Applets. Software Development with Graphical-user Interfaces and Graphical Components. Events and Exception Handling. Utilizing Multithreading. Design Patterns for Developing Extendable Software Applications.

### CEE 501 Advanced Computer-Aided Structural Analysis (8 ECTS)

Computational Simulation of Planar and Spatial Structures with Modern Structural Analysis Software (GT-Strudl, SAP2000 or/and ETABS). Direct Stiffness Method based on the Principle of Virtual Work and its Software Implementation. Substructures and Static Condensation. Numerical Methods for Eigenvalues Analysis, Numerical Integration of Single and Multi-degree of Freedom Systems, Modal Superposition and Direct Integration of Equations of Motion for the Computation of Time-history Response. Construction of Response and Design Spectrum. Programming Numerical Methods for Structural Analysis (using Matlab) Finite Element Methods for both Static and Dynamic Analysis based on the Displacement Method. Single- and Multi-degree of Freedom Experiments using a small-scale shake-table. Seismic Isolation and Simulation of Seismically Isolated Structures. Simulation of Inelastic Structural Response.

### CEE 509 Computational Mechanics (8 ECTS)

Basic Concepts and Solution Techniques: Preliminaries, non-linear Finite Element Analysis, Geometrically non-linear Analysis, Solution Techniques in quasi-static Analysis, Solution Techniques for non-linear Dynamics. Computational Analysis with Damage Mechanics, Plasticity Models and Time-dependent Material Models. Coupled Problems: Pore Pressure - Deformation Analysis.

### CEE 511 Construction Engineering and Management (8 ECTS)

Construction Management Techniques and Construction Engineering. Project, Schedule and Cost Control, and Resource Management. Earned Value Analysis. Construction Productivity. Conflict Resolution and Negotiations. Information Systems in Construction Management and use of Relevant Software Packages. Health and Safety in Construction. Law and the Construction Industry.

**CEE 512 Risk Analysis in Civil and Environmental Engineering (8 ECTS)**

Advanced Topics in Stochastic Analysis in Civil and Environmental Engineering. Probability and Statistics, Data Analysis, Risk Assessment and Analysis, Hypothesis Testing, Multi-factored Analysis, Decision Trees, Neurofuzzy Systems, Regression, System Reliability, Markov Chains and Simulation of Civil and Environmental Systems. Applications from the Field of Civil and Environmental Engineering.

**CEE 513 Specifications and Conditions of Construction Contracts (8 ECTS)**

General Issues of Contract Law (offer, acceptance, consideration, legal relations, terms and conditions, construction of contracts), Conditions of Construction Contracts, Business Risk Allocation, Breach of a Contract and Claims Examination. Conditions of Contracts for Construction, Conditions of Subcontracts, Design Contracts, Design and Build Contracts, Public – Private – Partnership. Tender Documents and Procedures for Awarding Public Work Contracts, General Issues for Technical Specifications for Construction Works and Dispute Resolution Procedures.

**CEE 515 Advanced Topics in Construction Management (8 ECTS)**

Advanced and Contemporary Topics in Construction Engineering and Management. The topics include, among other, offerings on Fully Integrated and Automated Project Processes (FIAPP), 3D/4D Computer-aided Modelling of Construction Processes, Decision-support Systems in Construction, Construction and the Law, etc.

**CEE 516 Building Information Models (8 ECTS)**

Building Information Models (BIM) and Fully Integrated and Automated Project Processes in Construction Engineering and Management. Development of Relational Database Management Systems for BIM, Model-centric and Data-centric BIM Architectures. Application of BIM in Design, Quantity takeoff, Costing, Scheduling, Resource Productivity and Management, Structural Analysis and Energy Efficiency of Buildings. Use of specialized BIM software (Revit, Primavera, SQL/ODBC, Ecotect).

**CEE 517 Operations Research in Civil and Environmental Engineering (8 ECTS)**

Introduction in Operations Research and Optimization. Linear programming: Mathematical Formulation of Problems, Graphical Solution, Simplex Algorithm, Sensitivity Analysis and Duality. Integer Programming. Non-linear programming: Fundamental Concepts, Classical and Heuristic Optimization Methods, Single- and Multi-objective Optimization. Dynamic Programming. Network Analysis. Queuing Theory and Markov Chains. Special Topics. Civil and Environmental Engineering Examples (structural analysis and design, construction management and scheduling, transportation, environmental issues, etc.) and Practical Applications with Software Usage.

**CEE 521 Structural Dynamics and Earthquake Engineering (8 ECTS)**

Elements of Analytical Dynamics. Lagrange's Equations. Dynamic Response of Discrete Single- and Multi-degree-of-freedom Systems. Vibration Isolation. Modeling of Damping in Structures. Numerical Evaluation of Dynamic Response. Earthquake Response Analysis. Frequency-domain Method of Response Analysis. Dynamic Response of Continuous Systems. Rayleigh's Method. Dynamic Response of Seismically Isolated Structures.

**CEE 522 Advanced Topics in Earthquake Engineering (8 ECTS)**

This course does not have a specific course material, but it is offered circumstantially by specialists in the particular specification with visiting Faculty or a specialist covering scientific topics in the field of Earthquake Engineering.

**CEE 523 Passive and Active Control of Structural Systems (8 ECTS)**

Introduction, Seismic Isolation Principles, History. Seismic Isolation Systems (elastomeric, sliding, rocking, etc.). Elastomeric Isolation Systems LRB, HRB (Low-damping, High-damping Rubber Bearings). Linear Theory of Base Isolation. Sliding Isolation Systems. Energy Dissipation Systems. The Principle of Active Structural Control. Theoretical and Practical Considerations.

**CEE 526 Finite Element Methods (8 ECTS)**

The Concept of Numerical Simulation. The Direct Stiffness Method. Truss/frame Finite Elements (FEs). Plane Stress and Strain FEs (triangular, quadrilateral). Isoparametric FEs. Solid FEs. Higher Order FEs. Estimation of Discretization Error - Adaptive FEs. Solution of FE Equilibrium Equations. Basic Principles of FE Programming. Sub-structuring Methods. Special Topics. Learning and Usage of FE Software.

**CEE 528 Advanced Topics in Structural Analysis (8 ECTS)**

This course does not have a specific course material, but it is offered circumstantially by specialists in the particular specification with visiting Faculty or a specialist covering scientific topics in Structural Analysis.

**CEE 531 Seismic Behavior and Assessment of Reinforced Concrete Structures (8 ECTS)**

The course deals with the strength and deformation capacity of reinforced concrete structures, the hierarchy of mechanisms of resistance and failure of structures, the effects of large amplitude cycling and consequent strength degradation of the hysteretic performance of structures. ADRS Spectra – Damping – Local vs Global Demands. Chord Rotation (relative drift ratio) in Reinforced Concrete Structures. Typical Deficiencies of old-type lightly Reinforced Construction. Available Deformation Capacity, Evaluation of Beam-column Joints, Anchorages and Lap-splices, Short-columns, Identification of the weak link in the Structural System, Establishing the Pushover (resistance) Curve of the Structure. Lateral Stiffness, Strength at Yielding and at Failure, Examples of Direct Assessment of Structures Damaged in Past Earthquakes, Forensic Investigation of Collapse. Maximum Tolerable Ground Acceleration in Existing Structures Limiting Collapse.

**CEE 532 Advanced Technology of Materials (8 ECTS)**

Concrete Components, Microstructure and Properties of Portland Cement. Heat of Hydration and Thermal Stress Development in Concrete. Strength, Fatigue, Failure Mechanisms (fracture mechanics), Creep, Shrinkage and Durability of Hardened Concrete. Special Concretes: Self-compacting, High Performance, Recycled Concrete and Ultra-high Performance. Fiber Reinforced Concrete. Behavior and Mechanical Properties. Mechanics of Fiber Reinforced Concrete. Fiber Reinforced Polymer Composites. High Performance Materials. Sustainability. Experimental Investigation.

**CEE 533 Local and Traditional Building Materials (8 ECTS)**

Natural Building and Decorative Stones and Stone Structures, Properties of Local Stones, Decay and Protection of Stone,

Imported Stone Carbon Footprint, Local Aggregates: Characteristics and their Effect on the Quality of Composite Materials, Fired Clay Bricks, Binders, Mortars and Plasters, Local and Traditional Mortars, Earthen Architecture and Adobe, Timber.

**CEE 534 Physical Properties and Related Durability Problems of Construction Materials (8 ECTS)**

Porosity and Porous Media, Saturated and Unsaturated Flow, One Dimensional Flow, Sorptivity, Sharp Front Theory, Applications of Sharp Front Theory, Evaporation and Drying, Salt Crystallization, Rising Damp.

**CEE 535 Plasticity Theory (8 ECTS)**

Stresses and Strains. Elasticity. Non-linearity. Yield Surface. Elastic - perfectly Plastic Behavior. Hardening and Softening. Constitutive Modeling. Numerical Integration of Constitutive Models. The Constitutive Models in the Finite Element Method. Limit Analysis. Upper and Lower Bounds. The Method of Characteristics.

**CEE 536 Energy Efficiency of Buildings (8 ECTS)**

Basic Principles of Energy Efficiency of Buildings, Methodology of Energy Analysis, Steady and Unsteady Heat Transfer in Two- and Three-dimensional Analysis of Structural Materials and Components with Conduction, Convection and Radiation, Prerequisites of Energy Efficiency, Materials for Thermal Insulation, Simulation Methods for Energy Efficiency, Certification, European and Cypriot Standards and Codes for Energy Efficiency, Assessment of Energy Efficiency, Optimized Technologies for Energy Efficient Design, Passive Cooling and Heating, Case Studies in Buildings (residential, offices, organizations etc.).

**CEE 537 Rehabilitation and Strengthening of Structures (8 ECTS)**

Rehabilitation Strategy and Methods of Intervention. Particular emphasis is placed on detailing of interventions with FRPs in the context of EC8 – III and the Greek Retrofit Code 2010. Assessment of the structural implications of corrosion particularly with reference to earthquake resistance. Use of FRPs in corrosion repairs. Required global and local interventions for earthquake resistance of old, lightly reinforced construction. Strength implications for foundation redesign Reinforced Concrete Jackets. Addition of walls, infills, diagonal braces. Detailing of retrofit. Other repair and strengthening methods. Injections of grouts, metallic nets. Local interventions with composites. Debonding. Strengthening for flexure using externally bonded plates and near-surface mounted reinforcement. Confinement, shear strengthening, strengthening of anchorages. Clamping action. Assessment and retrofit against torsional eccentricities in structures. Unreinforced masonry structures: repair and retrofit with advanced composites. Historical constructions, assessment and strengthening.

**CEE 538 Experimental Methods in Structural Engineering (8 ECTS)**

Introduction to Experimental Mechanics. Structural Models. Dimensional Analysis-Similitude Laws. Static and Dynamic Modeling. Design of an Experimental Setup. Strain Gage Instrumentation. Force-Displacements-Velocity-Acceleration-Pressure-Temperature Transducers. Non-destructive Testing. Data Acquisition Systems. Accuracy-Reliability-Statistical Analysis of Experimental Data. Experimental Testing.

**CEE 539 Advanced Topics in Novel and Traditional Construction Materials (8 ECTS)**

This course doesnot have a specific course material, but it is offered circumstantially by specialists in the particular specification with visiting Faculty or specialists covering scientific topics in novel and traditional construction materials.

**CEE 540 Behavior and Design of Reinforced Concrete Structures (8 ECTS)**

Confined Concrete Models. Optimal Design of Reinforced and Prestressed Concrete Members. Prestress Limits in Continuous Prestressed Concrete Bridges. Plasticity Theorems for Concrete Design. Design of Deep Beams and Corbels Using Strut-and-tie Models. Compressive-field and Compressive-path Theories for Shear. New Materials as Main Reinforcement in Concrete Design.

**CEE 543 Bridge Engineering (8 ECTS)**

Conceptual and Preliminary Design of Bridges - Bridge Loads - Substructures and Foundations -Bridge Analysis, Design and Construction (prestressed concrete, steel, composite steel-concrete, truss, masonry arch, cable supported and suspended, floating, movable) - Design for Durability - Bridge Whole Life Costing - Problems and Failures - Bridge Strengthening and Restoration.

**CEE 545 Nonlinear Structural Analysis (8 ECTS)**

The aim of the course is to introduce students to nonlinear structural analysis through practical simulation applications for static and dynamic analysis, design and assessment of structures. The course is based on the learning and usage of modern structural analysis software and consists of a series of computational lab sessions, during which the way to simulate each application is described and the basic relevant theory is given. The structure types examined include trusses, plane and space frames made of steel or reinforced concrete, as well as masonry structures. The course is concerned with the evaluation of the limit load and the collapse mode of a structure, the exploitation of various material models for structural steel, reinforced concrete and masonry, the use of concentrated or distributed plasticity, the implementation of nonlinear static (pushover) and dynamic time-history structural analysis, etc.

**CEE 546 Building Physics (8 ECTS)**

Fundamental and Applied Topics in Building Physics: transfer of heat and moisture, air flow indoors and outdoors, natural ventilation mechanisms. The course focuses on the design of structural components such as foundations, windows, roofs for issues of heat and moisture transfer, energy saving, as well as issues of climate, thermal comfort and indoor air quality.

**CEE 547 Masonry Structures (8 ECTS)**

Masonry Materials (stone, adobe/earth-based brick, mortar, timber) and their mechanical behaviour. Masonry Types and Construction Techniques (unreinforced, reinforced, tier-laced, confined-masonry). Mechanical Behaviour of Masonry in compression, tension, bending, shear due to in/out-of-plane actions (mainly as a result of gravitational and seismic loads). Behaviour of Interfaces within the Masonry and Force Transfer Mechanisms. Construction Details of Masonry Buildings (lintels, arches, etc.). Evaluation of Mechanical Characteristics of Masonry and its Constituent Materials (in situ or at lab). Assessment, Damage/Pathology and Retrofit/Strengthening of Masonry Buildings. Eurocodes and Other Codes for Designing/Assessing

Masonry Walls and Buildings. Simulation of Masonry Structures and Static/Dynamic Analysis Using Finite Element Software.

#### **CEE 555 Soil Dynamics and Engineering Seismology (8 ECTS)**

Strong Ground Motion Characteristics. Seismic Hazard Analysis. Soil Behavior Under Cyclic Loading. Seismic Wave Propagation, Reflection and Refraction. The Viscous Dashpot Analogue. Ground Response Analysis. Soil Liquefaction due to Earthquakes. Stability of Slopes and Retaining Walls Under Seismic Conditions. Bearing Capacity of Foundations Subjected to Earthquake Loading. Soil-structure Interaction.

#### **CEE 556 Advanced Foundation Engineering (8 ECTS)**

Analysis of Beam and Mat Foundations Using Computer Software. Computation of Pile and Pile Group Settlements. Dynamic Analysis of Pile Driving. Piles and Pile Groups Subjected to Lateral Loading: lateral bearing capacity and deformations. Applications of Soil-structure Interaction: foundations, walls of deep excavation, tunnel liners. Seismic Soil-pile-structure Interaction. Caisson-type Foundations. Analysis and Design of Foundations on Expansive Soils.

#### **CEE 557 Coastal and Offshore Geotechnical Engineering (8 ECTS)**

Introduction. Coastal and Offshore Construction. Underwater Site Investigation. Types, Physical Properties and Mechanical Behaviour of Seabed Soils. Piled Foundations. Shallow Foundations. Mobile Jack-up Platforms. Anchoring Systems. Geotechnics of Pipelines and Subsea Installations. Geotechnical Analysis of Quay Walls, Breakwaters and Cofferdams. Marine Landslides and Other Geohazards.

#### **CEE 558 Advanced Topics in Geotechnical Engineering (8 ECTS)**

This course does not have a specific course material, but it is offered circumstantially by specialists in the particular specification with visiting Faculty or specialists covering scientific topics in Geotechnical Engineering.

#### **CEE 560 Advanced Transport Planning (8 ECTS)**

This is a course that examines the complex relationship between transportation, land use and urban form as well as the varied methods and concepts available to planners seeking to influence this relationship. The course provides an overview of alternatives available to transportation planners, as they attempt to (a) avoid long and unnecessary motorized travel and (b) shift the movement of people to socially efficient modes such as walking, biking and public transit. Moreover, the course looks at how transportation planners craft projects and policies that are both technically sound and feasible at the same time, introducing (and critiquing) some of the tools and skills used by professionals in this field. The course is quantitatively-based and aims to develop advanced modeling skills.

#### **CEE 561 Highway Design and Road Safety (8 ECTS)**

This course aims on the advanced concepts, tools and technologies concerning the design of roadways. An emphasis is given on the G Design as well as on the equipment that is used in Contemporary Highway Design. Moreover, the elements of risk and safety are introduced, covering related practical and methodological aspects. This course consolidates knowledge from Highway Design, Traffic Engineering and Safety Research in a contemporary and comprehensive framework.

#### **CEE 562 Asphalt Materials (8 ECTS)**

Identification and Physical Properties of Asphalt Materials, Asphalt Refining, Uses and Properties, Physical Properties of Aggregates, Aggregate Testing, Hot Mix Asphalt (HMA), Cold Mix Asphalt, HMA Design Methodology, Factors Affecting HMA, HMA Material Characterization, Quality Control, Equipment and Construction, Behaviour of Flexible Pavements and Typical Distresses, Maintenance of HMA Pavements, Pavement Rehabilitation, Recycling of HMA and Special Mixes and Additives.

#### **CEE 563 Advanced Topics in Traffic Engineering and Intelligent Transport Systems-ITS (8 ECTS)**

This course aims on deepening the understanding of the Traffic Flow Phenomenon and the analytical models that are used in this area. The perspective of the course will lead to the technological aspects of Contemporary Traffic Networks Surveillance, Operations and Control as those are incorporated in the broad area of Intelligent Transportation Systems (ITS). Students with interest in engineering, transportation systems, communication systems, vehicle technologies, transportation planning, transportation policy and urban planning are encouraged to participate since ITS refers to information and communication technologies, as applied to transportation infrastructure and vehicles, improving transportation sector's efficiency, safety and the environmental conditions. The recent availability and accessibility of mobile technology, suggests that ITS applications is an area of rich academic and industrial opportunities. It is noted that ITS is an international methodological paradigm intended to improve the effectiveness and efficiency of surface transportation systems through advanced technologies in information systems, communications, and sensors. In addition to discussions that have to do with technology, this course will include topics related to Policy, Economics, Security, as well as Urban and Rural Planning.

#### **CEE 564 Civil/Transport Economics and Finance (8 ECTS)**

The content covers a wide variety of topics relating to the economic aspects of transportation, Government Regulatory Policies regarding transportation, and issues that concern Transportation Industry Planners. The unifying theme concerns the application of Economic Theory and/or Applied Economic Methodologies to transportation questions. Methods of funding and financing transport network maintenance, improvement and expansion are debated extensively and form part of the transport economics field. Funding issues relate to the ways in which money is raised for the supply of transport capacity. Taxation and pricing of transport services will also be included covering issues of loans, bonds, public-private partnerships and concessions as well as other methods of Financing Transport Investment.

#### **CEE 565 Multi-Modal Systems and Logistics (8 ECTS)**

This course will cover the fundamental analytic tools, approaches, and techniques which are useful in the design and operation of multimodal transport, logistics systems and integrated supply chains. The material is offered from a managerial perspective with an emphasis on where and how specific tools can be used to improve the overall performance and reduce the total cost of a supply chain. A strong emphasis is given on the development and use of fundamental and advanced models to illustrate the underlying concepts involved in both intra and inter-company multimodal and logistics operations. While the main objective is to develop and use models to help us analyze these situations, extended use of examples from industry and realistic illustrations of the concepts in practice will be provided. This is neither a purely theoretical nor a case study course, but rather an analytical course

that addresses real problems encountered when theory is put into practice.

## **CEE 566 Transit Systems (8 ECTS)**

This course covers the strategic and operational planning and design of transit systems both within the urban (bus, Tram and Metro systems) as well as in the means of mass transportation in the interurban space. Issues related to capacity, level-of-service, optimal design and management, routing, scheduling (of rolling stock as well as of personnel), technological developments, pricing strategies and the particularities emerging in alternative transit systems are analyzed. Competitiveness and complementarity among means of transport is also covered, while new organization schemes (e.g. Demand Responsive Systems, Dedicated Transit Systems, Taxi Market Organization) are discussed. A special care for paratransit systems is taken. The course balances the theoretical and practical aspects of transit systems with an emphasis on modeling and decision-making.

## **CEE 567 Advanced Topics in Transport Infrastructure (8 ECTS)**

This course covers several topics of Transport Infrastructure, like Terminal Design, Transit Systems, Railways and Metro/Tram Systems, Pipelines and a lot of other related issues that are not covered in other courses.

## **CEE 571 Computational Hydraulics (8 ECTS)**

Principles of Computational Hydrodynamics with emphasis on finite differences and finite volumes. Application Examples include open channel flows, rivers, lakes, and open seas as well as hydrodynamic loading of structures.

## **CEE 572 Groundwater Hydrology (8 ECTS)**

Significance of Groundwater Hydrology. Physico-chemical Properties of Groundwater. Fundamentals of Groundwater Flow. Measurement of Flow Parameters. Design and Analysis of Control Pump. Contaminant Transport in Groundwater. Computational Models for Simulation of Subsurface Flow and Contaminant Transport in Groundwater. Soil Remediation Methods and Protection of Aquifers, e.g. risk assessment remediation from accidental leaks of toxic substances.

## **CEE 574 Environmental Geotechnics (8 ECTS)**

Introduction. Sources of Contamination and Acceptable Limits. Hydrogeology. Interaction of Contaminants with Soil. Mechanisms of Contaminant Mobility. Ground Investigation. Waste Disposal by Landfill. Ground Remediation and Protection of Soil and Ground-water. Risk Assessment of Failure of Large Construction Structures.

## **CEE 576 Environmental Fluid Mechanics (8 ECTS)**

Introduction to Environmental Flows. Basic Transport Mechanisms in the Water and the Atmosphere (convection, molecular and turbulent diffusion, dispersion). Mixing and Dispersion in 2-D Systems. Analytical Solutions. Retention Times. Stratified Flows: Boussinesq approximation, momentum jets, buoyant plumes, influence of environmental conditions. Elements of Geophysical Fluid Mechanics: large scale flows, the effect of earth's rotation (Coriolis Effect), Ekman layer.

## **CEE 580 Dynamics of the Atmosphere and Air Pollution Dispersion (8 ECTS)**

Meteorology and Structure of the Atmosphere. Meteorological Events as Events of Atmospheric Dynamics: weather-climate-

climate change, wind, tornadoes and hurricanes, dust storms, El Nino phenomenon, rain, storms. Atmospheric Pollution Dispersion: Sources and Transport Mechanisms. Turbulent Atmospheric Flows. Jets and Plumes in the Atmosphere. Atmospheric Chemistry. Research and Operational Air Pollution Dispersion Models.

## **CEE 581 Environmental Risk Assessment (8 ECTS)**

Introduction to risk assessment, definitions, methodology (problem formulation, hazard identification, exposure assessment, exposure-response assessment, risk characterization), basic knowledge in chemistry and biology, fate of pollutants in environmental media, mass and energy balances, toxic organic compounds, heavy metals, physicochemical properties (ideal gas law, Dalton's law, Raoult's law, Henry's law, Le Chatelier's principle), sorption, adsorption, evaporation, hydrolysis, photochemical transformations, biological transformations, bio-concentration, bioaccumulation, uncertainties in risk assessment, case studies. The course covers topics related to characterizing source areas, linking fate and transport mechanisms, evaluating exposure pathways and applying toxicology data to evaluate environmental risk in a variety of differing contexts.

## **CEE 582 Solid and Hazardous Waste Management (8 ECTS)**

Management of Solid and Hazardous Waste (definitions, legislative framework, waste generation and characterization, classification and labeling). Analysis and Design of Waste Collection and Treatment Systems: recycling, resource recovery, mechanical, thermal and biological treatment processes. Landfills for Solid and Hazardous Waste (design principles, hydrology, geotechnical aspects, gas production, management of leachates, environmental risks, operation and monitoring, closure, aftercare and final use).

## **CEE 583 Physicochemical and Biological Processes for the Treatment of Wastewater (8 ECTS)**

Introduction to the Wastewater Treatment (terminology, legislative framework). Characterisation of the Wastewater (sampling methods, principles of the analytical methods, physical – chemical and biological parameters, toxicity tests, TOC, BOD5, COD). Description of the Various Types of Reactors. Physical Processes (screening, solid reduction/removal, grit removal, flow equalisation, fat and grease removal, primary sedimentation, clarification, floatation, aeration). Chemical Processes (chemical precipitation and coagulation, removal of P, N, and heavy metals, chemical oxidation). Basic Principles of the Biological Processes (kinetic of microbial growth, suspended growth biological treatment processes, attached growth and combined biological treatment processes, anaerobic suspended and attached growth biological treatment processes). Advanced Wastewater Treatment (membranes, adsorption, gas stripping, ion-exchange, advanced oxidation technology). Disinfection Processes (basic principles, disinfection by-products, chlorination, ozonation, UV). Treatment, Reuse and Disposal of Sludge (dewatering, stabilisation, aerobic – anaerobic digestion, composting, drying). Management of Odours.

## **CEE 584 Advanced Topics in Environmental Engineering (8 ECTS)**

Special Advanced Topics in Environmental Engineering such as: advanced wastewater treatment technologies, advanced water treatment technologies, aquatic chemistry, ionic equilibrium, solubility and pH calculations in water, monitoring of solid waste disposal, development of management systems for special waste, energy recovery from biomass, monitoring and control of

industrial emissions, integrated management systems of water resources, advanced environmental fluid dynamics including geophysical and coastal fluid dynamics, weather forecasting systems, climate change prediction, atmospheric dynamics and air pollution dispersion, dynamics of atmospheric boundary layer, monitoring and control of atmospheric pollution.

#### **CEE 585 Experimental Methods in Water and Wastewater Analysis and Treatment (8 ECTS)**

Sampling, Samples Transport and Preservation, Laboratory Analytical Methods, Quality Assurance and Quality Control. Water Analysis (organoleptic methods, volumetry, nephelometry, spectrophotometry, spectroscopy, chromatography, mass spectrometry), Microbiological Analysis, The Physics, Chemistry and Biology of Water. Water and Wastewater Characterization (fresh water / potable water / industrial wastewater / urban wastewater). Treatability of Wastewater (e.g. sedimentation, coagulation-flocculation (jar tests), oxidants demand). Biological Treatment (membrane bioreactor), Chemical Treatment (UV/H<sub>2</sub>O<sub>2</sub>, homogeneous and heterogeneous photocatalysis, ozonation), Ultrafiltration. Eco- and Phyto-toxicity Tests.

#### **CEE 586 Sustainable Built Environment (8 ECTS)**

Holistic approach and lateral integration of fundamental aspects and current challenges in the sustainable design of the built environment. Includes: Climate Change, Urban Physics, Environmental Pollution, Global Energy Demands, Sustainable Building Materials, Rational Water Use, Waste Management, Renewable/Alternative Energy Technologies, Perception of Human Comfort, Ecological Footprint Analysis, Legal Framework, Environmental and Operational Management & Strategies. The course also demonstrates examples of both sustainable and unsustainable aspects of current design practice of the built environment, and how international policy frameworks can act as both drivers and barriers to sustainable solutions.

#### **CEE 596 Renewable Energy Sources Management (8 ECTS)**

Forms and Sources of Energy, Basic Thermodynamic Principles, Efficiency and Losses During the Conversion and Transfer of Energy. Energy and Society, Energy Resources - Characteristics, Properties and Exploitation Technologies, Applications and Potential of Renewable Energy Resources, Energy Storage Systems Resources, Photothermal and Photoelectric Systems, Geothermal Systems of High, Medium and Low Enthalpy, Biomass Technologies for Managing Urban and Agricultural / Livestock Waste for Energy Production (conversion). Legislative Framework and European / National Directives on Renewable Energy. Recycling and Energy Production.

#### **CEE 610 Seminars for Graduate Students (8 ECTS)**

Graduate seminars organized by the CEE Department on contemporary research issues of local and international interest. The list of seminars is announced at the beginning of each academic semester (approximately 6-7 seminars per semester) and graduate students (MEng/MSc) are required to attend at least 8 seminars during their course of studies. Doctoral candidates are required to attend at least 16 seminars during their course of studies, in addition to presenting one seminar themselves in relation to their doctoral research. (0 ECTS.)

#### **CEE 650 Independent Study (8 ECTS)**

Individual study, research, or laboratory investigations under Faculty supervision.

#### **CEE 680-683 M.Sc. Research**

Programme of Graduate Research leading to the defense and writing of an M.Sc. thesis.

(ECTS units are assigned by the Thesis Advisor).

#### **CEE 689 Research Project (10 ECTS)**

Individual Research Project leading to the completion of the M.Eng. Degree.

#### **CEE 690-696 Ph.D. Research**

Graduate Research within the Ph.D. programme.

#### **CEE 697-699 Ph.D. Thesis Authoring**

Authoring of the Ph.D. Thesis. These courses are only taken upon completion of all ECTS units required under the "PhD Research" course-codes. (ECTS units are assigned by the Thesis Advisor).

#### **CEE 701-702 Examination of the Research Proposal for the Doctoral Thesis**

Examination of the research proposal, for the doctoral thesis, by the 3-member doctoral committee, according to the Graduate Studies Regulations of the UCY.

### **Research Interests of the Academic Staff**

#### **• Dimos C. Charmpis, Associate Professor**

His research interests cover various topics of Computational Mechanics and aim toward the exploitation of innovative computing systems and numerical methods for the analysis and design of structures under static or seismic loading.

#### **• Symeon Christodoulou, Associate Professor**

His principal research interests are in construction engineering and management, fully integrated and automated project processes, information technology, risk analysis and management of urban water distribution systems, artificial intelligence for civil engineering and construction applications.

#### **• Ioannis Ioannou, Associate Professor**

His research interests have a particular emphasis on studies of water movement in porous construction materials and the associated problems of material durability.

#### **• Loukas Dimitriou, Lecturer**

His research interests concern the design and analysis of civil and transportation infrastructure, the use of advanced methods and techniques for optimizing systems' design and performance and in developing frameworks for supporting decisions in his fields.

#### **• Despo Fatta-Kassinou, Associate Professor**

Her principal research interests are in the field of Environmental Science, Technology and Management and in particular in the areas of environmental monitoring, water and wastewater treatment, wastewater management systems, xenobiotics in the environment and environmental risk assessment.

#### **• Petros Komodromos, Associate Professor**

His research interests include modern earthquake resistant design, computer-aided engineering and utilization of information technology in engineering.

## • **Dimitrios Loukidis, Assistant Professor**

His research interests include foundation engineering, computational geomechanics, constitutive modelling, unsaturated soil mechanics, pile dynamics, geotechnical earthquake engineering, plasticity theory, limit analysis, finite element analysis.

## • **Marina Neophytou, Associate Professor**

Her principal research interests lie in the area of environmental fluid mechanics, in particular atmospheric pollution dispersion, environmental turbulence modelling, Computational Fluid Dynamics modelling at the local and urban scales, indoor air pollution, buoyancy-driven flows, building ventilation, sustainable building design.

## • **Stavroula Pantazopoulou, Professor**

Her research interests are in the mechanics of reinforced concrete structures, service life modelling, earthquake engineering, and seismic assessment and upgrading of existing structures with novel materials and technologies.

## • **Panos Papanastasiou, Professor**

His research interests and contributions are in the area of Applied and Computational Mechanics with applications in constitutive modelling of cohesive-frictional materials, micro-mechanics, fracture mechanics, environmental geomechanics, petroleum engineering and finite element analysis.

## • **Michalis Petrou, Professor**

His research interests are in the general area of civil engineering materials and experimental methods, including behavior of reinforced and prestressed concrete, self-compacting concrete, high performance concrete, fiber reinforced polymer composites, high performance steel, laboratory and field testing of structures, structural modelling, and repair/strengthening of structures.

## • **Panayiotis Roussis, Assistant Professor**

His research interests and contributions are in the area of Earthquake Engineering and Structural Dynamics, with a focus on the development and implementation of seismic-isolation and energy-dissipation systems, performance-based earthquake engineering of structural and nonstructural components, development of seismic codes and guide specifications, earthquake-simulator testing and development of nonlinear dynamic analysis software.

## Contact Details

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# Department of Electrical and Computer Engineering



*Electrical and Computer Engineering is a key discipline, at the heart of the technology frontier. It concentrates on the design and analysis of electrical, electronic, magnetic and optical devices, and the processing, control, and transmission of information and energy. The scientific disciplines used in electrical and computer engineering include the theory and application of electrical, electromagnetic and optical phenomena, Systems Theory, Control Theory, Communications Theory, Information Theory, and Computational Hardware and Software.*

*The Department offers the following degrees:*

- *Master and Doctoral Degrees in Electrical Engineering*
- *Master and Doctoral Degrees in Computer Engineering*

## **Introduction**

The Department of Electrical and Computer Engineering offers degree programmes in Electrical Engineering and Computer Engineering at both the undergraduate and postgraduate levels. These programmes emphasize fundamental principles that prepare students for leadership roles in a challenging and rapidly changing technological world. Research and innovation are ensured in an environment that fosters cooperation among faculty, students, industry and research organisations. The Faculty of the Department of Electrical and Computer Engineering comprises experienced academics, who are leaders in their fields of expertise.

Members of the Academic Faculty of the Department collaborate with many research centres abroad and of the University of Cyprus. The Department also hosts the KIOS Research Center for Intelligent Systems and Networks. KIOS is an inspiring environment for conducting high quality interdisciplinary research for the benefit of society and the promotion of a knowledge-based economy. It aims at contributing to the advancement of knowledge in the areas of computational intelligence and system design, and to apply these methodologies in the monitoring, control and management of large-scale complex systems.

In addition, the Department also hosts the Research Centre for Sustainable Energy FOSS that was created in order to play a key role in research and technological development activities in the field of sustainable energy within Cyprus and at the international level. FOSS' areas of research include renewable energy sources with an emphasis on solar energy, distributed generation and new technologies for electrical power systems, smart electricity networks, enabling technologies including energy storage and ICT that are necessary for developing a smart grid environment, energy efficiency and energy saving, energy efficient buildings, as well as energy policy and energy economics.

For detailed information regarding the Department and its postgraduate level degrees, please refer to the Department's detailed postgraduate studies guide and the Department's website.

## Admission to Postgraduate Programmes

The Department admits new postgraduate students each year at the Master and Doctoral levels. The number of new admissions fluctuates each year and depends on the needs of the Department and the quality of the candidates.

Applications are submitted to the Department and are considered for evaluation by the Postgraduate Studies Committee which makes suggestions to the Departmental Board for final approval. Upon acceptance to the programme, students must choose one of the faculty members as their supervisor, whom they should consult on academic and research issues.

For more information on the Postgraduate Programmes, please refer to the *Attendance Regulations and Application Requirements*. The Department requires the following for admission:

- A completed application form, which can be found on the Department's website.
- A Curriculum Vitae indicating the student's education, academic and research experience, any publications, awards, etc.
- A short statement (at most two pages) outlining the reasons the candidate wishes to join the program, the candidate's professional and research experience, future goals, etc.
- At least three letters of recommendation from academic or professional advisors.
- Copies of representative publications, if any (no more than three).
- Copies of all degrees and transcripts. If applicable, a letter from the Registrar of the student's current university, verifying the expected graduation date (as described above).
- Copies of any other supporting material, such as exams, honors, awards, etc.

Applications may be submitted in either Greek or English.

## Evaluation Criteria

The criteria for the evaluation of the candidates are the following:

- Academic background
- Research background
- Recommendation letters
- Additional qualifications

Familiarity with the English language is strongly recommended.

## Graduate Degree Programmes

The Department offers six graduate degrees:

- M.Sc. in Electrical Engineering
- M.Eng. in Electrical Engineering
- M.Sc. in Computer Engineering
- M.Eng. in Computer Engineering
- Ph.D. in Electrical Engineering
- Ph.D. in Computer Engineering

### MASTER OF SCIENCE (M.Sc.) AND MASTER OF ENGINEERING (M.Eng.) DEGREES

To be awarded the M.Sc. or M.Eng. degree, students must complete at least 90 ECTS of graduate-level coursework. For the M.Sc. degree these units are distributed as follows:

- At least 56 ECTS of graduate-level courses
- 4 ECTS of graduate-level seminars
- At least 30 ECTS of original research work, documented by an M.Sc. thesis

#### The following rules apply:

- A maximum of 8 ECTS of the total 56 ECTS for courses can be fulfilled by directed study courses (ECE 711-712).
- Of the 56 ECTS required, at least 38 must be fulfilled by graduate-level courses in the ECE Department.
- Students may enroll in graduate courses offered by another department in the University of Cyprus or any other accredited university. Units outside the Department must be approved by the Graduate Studies Committee, and are not to exceed 18 ECTS unless approved by the Departmental Board.
- To satisfy the 4 ECTS requirement for seminars, students must attend at least 25 departmental graduate seminar presentations during their time registered in the ECE graduate programme. The graduate seminar coordinator is responsible for assigning the final grade.

#### For the M.Eng. degree the units are distributed as follows:

- At least 80 ECTS of graduate-level courses
- 2 ECTS of graduate-level seminars
- 8 ECTS from the individual study course (ECE 723-724)

#### The following rules apply:

- A maximum of 8 ECTS of the total 80 ECTS for courses can be fulfilled by directed study courses (ECE 711-712).
- Of the 80 ECTS required, at least 48 must be fulfilled by graduate-level courses in the ECE Department.
- Students may enroll in graduate courses offered by another department in the University of Cyprus or any

other accredited university. Units outside the Department must be approved by the Graduate Studies Committee, and are not to exceed 18 ECTS unless approved by the Departmental Board.

- To satisfy the 2 ECTS requirement for seminars, students must attend at least 12 departmental graduate seminar presentations during their time registered in the ECE graduate programme. The graduate seminar coordinator is responsible for assigning the final grade.

Students admitted into the M.Sc. or M.Eng. programme in Electrical Engineering are required to enroll in three of the six following core graduate courses:

- Random Processes (ECE 621)
- Digital Signal Processing (ECE 623)
- Systems Theory (ECE 631)
- Electromagnetic Waves and Antenna Theory (ECE 648)
- Optics & Photonics (ECE 645)
- Instrumentation & Sensors (ECE 665)

Students admitted into the M.Sc. or M.Eng. programme in Computer Engineering are required to enroll in the three following core graduate courses:

- Advanced Computer Networks (ECE 654)
- Advanced Computer Architecture (ECE 656)
- Advanced Iterative Methods (ECE 651)

Students admitted into the M.Sc. or M.Eng. programme in Electrical Engineering without having completed an undergraduate Electrical Engineering degree are expected to possess fundamental knowledge of basic concepts in the following areas: Signals and Systems, Electromagnetics and Microwaves, Circuits and Electronics. Similarly, students admitted into the M.Sc. or M.Eng. programme in Computer Engineering without having completed an undergraduate Computer Engineering degree are expected to possess fundamental knowledge of basic concepts in the following areas: Computer Architecture and Organization, Operational Systems and Algorithms. The Academic Advisor of each student should determine if, and what, additional coursework is required. This may require completion of up to a maximum of four additional courses from the Department's curriculum, possibly at the undergraduate level, in the aforementioned areas.

## DOCTOR OF PHILOSOPHY (Ph.D.)

Graduate students become candidates for a Ph.D. degree after successfully taking the Comprehensive Examination. For the fulfillment of a Doctor of Philosophy Degree the requirements are:

1. Successful completion of 240 ECTS, corresponding to graduate courses (at least 56 ECTS), seminars (at least 4 ECTS), and research (at least 180 ECTS). Students with an M.Sc. or equivalent degree may be partially exempt from the course requirements (up to 32 ECTS), after a recommendation by the Graduate Studies Committee, and subject to approval by the Departmental Board.
2. Passing the Comprehensive Examination by the end of the fifth semester of the programme.
3. Thesis Proposal. The candidate must submit a thesis proposal, outlining the proposed research project in a comprehensive and structured manner, at least 12 months before the intended date of defence.
4. Doctoral Dissertation. The dissertation must include significant research findings and must contain elements which testify to the candidate's personal contribution.
5. Defence of the Dissertation. The defence of the dissertation takes place before the thesis committee.

The maximum duration allowed for a Ph.D. degree is currently eight (8) academic years. For more information on the requirements for the completion of the Ph.D. degree, please refer to the postgraduate prospectus of the Department.

## Research Areas

Research in the Department of Electrical and Computer Engineering focuses on the following areas:

1. Power and Renewable Energy Systems
2. Biomedical Engineering
3. Signal and Image Processing
4. Electromagnetics, Microwaves, Antennas and Optics
5. Nanotechnology
6. Telecommunications Systems and Networks
7. Decision, Control and Automation Systems
8. Integrated Circuit Design
9. Digital Hardware Design and Test
10. High Performance Computing and Architectures
11. Computer Networks
12. Computational Intelligence and Robotics
13. Embedded Systems

## Financial Support

The University supports many graduate students through teaching assistantships, the number of which depends on the needs of the Department. Most doctoral students are financially supported through competitive research programmes of the Cyprus Research Promotion

Foundation and the European Union. There are also some additional funding opportunities, information on which is available through the Office of Academic Affairs and Student Welfare.

## Courses Offered

	ECTS
ECE 621 Random Processes	8
ECE 622 Information Theory	8
ECE 623 Digital Signal Processing	8
ECE 624 Principles of Digital Communications	8
ECE 625 Wireless Communication Networks I	8
ECE 626 Image Processing	8
ECE 627 Machine Vision	8
ECE 628 Advanced Communication Systems	8
ECE 629 Fiber Optic Communication Systems and Networks	8
ECE 630 Optical Networks	8
ECE 631 Systems Theory	8
ECE 632 Modern Decision and Control Systems	8
ECE 633 Security of Computer Systems and Networks	8
ECE 634 Introduction to Computational Intelligence	8
ECE 635 Optimization Theory and Applications	8
ECE 636 Systems Identification	8
ECE 643 Radio and Microwave Wireless Systems	8
ECE 645 Optics and Photonics	8
ECE 646 Advanced Antenna Theory	8
ECE 648 Introduction to Photonics	8
ECE 649 Electromagnetic Waves and Antenna Theory	8
ECE 651 Advanced Iterative Methods	8
ECE 652 Embedded and Real-Time Systems	8
ECE 653 Advanced Real-Time Systems	8
ECE 654 Advanced Computer Networks	8
ECE 655 Advanced Operating Systems	8
ECE 656 Advanced Computer Architecture	8
ECE 657 Computer-Aided Design for VLSI	8
ECE 658 Computer Systems' Performance Evaluation and Simulation	8
ECE 659 VLSI Design	8
ECE 660 VLSI Test	8
ECE 661 Logic Synthesis and Optimization	8
ECE 662 Physical Design Automation	8
ECE 663 Distributed Systems	8
ECE 664 Digital Design with FPGAs	8
ECE 665 Instrumentation and Sensors	8
ECE 667 Microwave Circuits	8
ECE 671 Neurophysiology and Senses	8
ECE 677 Optical Engineering and Photonics Laboratory	8
ECE 680 Power System Analysis	8
ECE 681 Power System Operation and Control	8
ECE 682 Renewable Sources of Energy - Photovoltaics	8
ECE 683 Power Electronics	8
ECE 684 Analysis of Power Generation Technologies	8
ECE 685 Power System Plant and Operation	8

ECE 686 Power System Modeling	8
ECE 690 Fault Tolerant Systems	8
ECE 701, 704 Graduate Seminar M.Sc. and Ph.D.	4
ECE 705 Graduate Seminar for M.Eng. Students	2
ECE 711-712 Directed Study for M.Sc. Students I and II	8
ECE 713-714 Independent Study for M.Sc. Students I and II	4
ECE 721-722 M.Sc. Thesis I and II	15
ECE 723-724 Individual Study for M.Eng. Students	8
ECE 731-732 Ph.D. Comprehensive Examination I and II	0
ECE 751-752 Directed Study for Ph.D. Students I and II	8
ECE 753-754 Independent Study for Ph.D. Students I and II	4
ECE 761-764 Research Stages of Ph.D. Dissertation IA-IVA	30
ECE 765-768 Research Course of Ph.D. Dissertation IB-IVB	15
ECE 771-773 Writing Stages of Ph.D. Dissertation I, II and III	30
ECE 795 Pattern Recognition	8
ECE 799 Special Topics in Electrical and Computer Engineering	8

## Course Descriptions

### ECE 621 Random Processes

Fundamentals of Random Processes: definition of random processes, continuous and discrete random processes, stationarity and ergodicity. Analysis and Processing of Random Signals: power spectral density, linear system response, optimum linear systems and the Kalman filter. Markov Chains: discrete and continuous Markov chains, classes of states, recurrence properties, and limiting probabilities. Introduction to Queuing theory: Little's theorem, the M/M/1 and M/M/k/k queues.

### ECE 622 Information Theory

Shannon's Reliable Data Transmission Block Diagram. Entropy and Relations to Reliable Communication: Source and Channel Models. Data Compression: lossless source coding (prefix codes, Ziv-Lempel algorithm), performance limits for channel codes, performance limits. Channel Capacity: additive Gaussian channels, finite-state channels. Rate Distortion: Quantization, compression subject to fidelity criterion. Network Information Theory: multiple access channel, broadcast channel, relay channel, interference channel. The effect of uncertainty on Shannon's Reliable Data Transmission Blocks.

### ECE 623 Digital Signal Processing

Discrete-time signals and systems; Fourier and Z-transform analysis techniques, the discrete Fourier transform; elements of FIR and IIR filter design, filter structures; FFT techniques for high speed convolution; quantization effects.

### ECE 624 Principles of Digital Communications

Elements of Communication Theory and Information Theory applied to digital communication systems. Amplitude and angle modulation (AM, FM, FDM). Sampling and Quantization (PCM systems, TDM; digital modulation techniques). Maximum-Likelihood receivers. Information sources, source coding and channel capacity.

**ECE 625 Wireless Communication Networks I**

Introduction and overview. Characteristics of the mobile radio environment-propagation phenomena. Cellular concept and channel allocation, Dynamic channel allocation and power control. Modulation Techniques. Multiple Access Techniques: FDMA, TDMA, CDMA. Second-generation, digital wireless systems. Performance analysis: admission control and handoffs. 2.5G/3G mobile wireless systems: packet-switched data. Wireless LANs and personal-area networks. Wireless ad hoc networks. Wireless Sensor Networks.

**ECE 626 Image Processing**

Introduction to the principles of modern Image Processing; a brief review of signals and systems. Two-Dimensional (2-D) Signals and Fourier Transform; 2-D Z-Transform and Stability Testing; 2-D DFT, DCT, FFT; 2-D FIR Filter Design and Implementation; Image Processing Basics; Edge Detection; Rank Order (median) Filtering, Motion Estimation; Image Enhancement; Image Restoration; Image Coding; Advanced Topics.

**ECE 627 Machine Vision**

The course gives an overview of the basic principles of how machines understand and interpret visual information. Through lectures, students will learn the principles of image formation, characteristics and information mining, object recognition as well as motion and scene analysis. Moreover, students will be taught algorithms for object detection and recognition. They will also study the applications of the methods taught in the course in robotics and intelligent systems. The subjects covered include analysis of computer vision and object recognition applications, image formation and processing methods, Bayesian Theory, application of statistical methods in object recognition, sensors and image capture machines, as well as man-machine interaction.

**ECE 628 Advanced Communication Systems**

Noise in communication systems, signal-to-noise ratio. Performance of analog and digital communication systems under noise. Error probabilities and error control. Access techniques: FDMA, TDMA, CDMA, random access. Coding. Applications.

**ECE 629 Fiber Optic Communications Systems and Networks**

Optical Fibers, geometrical-optics description, dispersion, fiber loss, nonlinear optical effects, optical transmitters, LED, LASER, optical receivers, photodetectors, receiver noise, receiver sensitivity, optical amplifiers, dispersion compensation, multichannel optical systems, design and performance of optical systems, optical networks, switch fabrics, node architectures, routing and wavelength assignment techniques, grooming, multicasting and fault detection and restoration.

**ECE 630 Optical Networks**

Current and future trends in wavelength division multiplexed (WDM) optical networks. Topics include: routing and wavelength assignment techniques, fault detection and isolation, fault protection and restoration techniques, switch fabric, node, and network architectures, traffic grooming, service availability, operational aspects of optical mesh networking, optical packet/label/burst switching, optical access networks, optical control plane.

**ECE 631 Systems Theory**

Algebraic structures, review of vector spaces and linear algebra; topological structures; optimization; review of numerical analysis; state-space and input-output descriptions of systems; observability, controllability, and matrix fraction descriptions; observable, controllable canonical forms, and minimum realisations; linear quadratic regulator, pole placement, observers and compensators.

**ECE 632 Modern Decision and Control Systems**

A continuation of a first course in decision and control systems. Frequency response and state space methods for designing feedback control systems will be covered. Other practical control design issues that will be covered include digital control systems, robust control, adaptive control systems and intelligent control. Case studies for modern control systems design will be investigated.

**ECE 633 Security of Computer Systems and Networks**

Secure communication: Encryption and Decryption. Security policies. Cryptographic analysis and calculation complexity. Transposition, Substitution, and Product ciphers, Data Encryption Standard (DES). Public key cryptography: RSA and factorization, Elliptic key cryptography. Authentication methods and secure network protocols (IPsec, Kerberos). Key management. Access control mechanisms.

**ECE 634 Introduction to Computational Intelligence**

Introduction to the tools and methods in the design, analysis, optimization, and control of industrial systems. Topics include neural networks and their application in complex system modelling, fuzzy logic, information fusion methods, and optimization schemes. MATLAB used as the software platform. Topics in more details: Optimization Methods; Gradient Methods, Linear Programming, Constrained Problems and Lagrange Multiplier Method, Search Method, Ordinal Optimization, Genetic Algorithms, Application. Neural Networks: Basic concepts, Backpropagation algorithm, Competitive learning, Data clustering networks, Application in hierarchical modelling for complex systems, application examples. Knowledge representation methods.

**ECE 635 Optimization Theory and Applications**

Optimization for non-linear systems without constraints: Gradient based and Newton techniques, convex optimization. Optimization with constraints and Lagrange methods. Dynamic programming. Applications in engineering systems.

**ECE 636 Systems Identification**

Random/stochastic variables and signals, stochastic signals and linear systems, properties and models of linear and nonlinear systems, nonparametric linear systems identification in the time and frequency domain, linear regression, properties of least squares methods, parameter estimation, experimental design: open- and closed-loop systems, data preprocessing, model order selection and validation, nonlinear systems identification: Volterra-Wiener models and block-structured models.

**ECE 643 Radio and Microwave Wireless Systems**

Antennas: Radiation from elementary dipoles, Patterns and the far field, Directivity, gain, efficiency, polarization, Monopoles and

dipoles; patch antennas, Antenna arrays/beam-steering; Wireless Propagation and Links: Friis transmission equation, Diffraction and propagation over obstacles, Multipath propagation in urban environments, Antenna diversity; introduction to smart antennas, Link equation and link budgets, Radio/microwave links; Receivers: Receiver figures of merit (sensitivity, dynamic range, intersymbol interference, intermodulation, etc.), noise in cascaded systems, noise figure, noise temperature, Heterodyne and homodyne receiver architectures, Image-reject receivers; Wireless Systems: Fixed wireless access, Wireless cellular concept; personal communication systems, Satellite communications, GPS, Radars, Remote sensing and radiometers.

#### **ECE 645 Optics and Photonics**

Introduction to optics, optoelectronics, lasers and fiber-optics; light sources and propagation of light; lenses and imaging; ray tracing and lens aberrations; interference of light waves, coherent and incoherent light beams; modulators and propagation in waveguides and fibers; photons in semiconductors, semiconductor lasers, detectors and noise effects.

#### **ECE 646 Advanced Antenna Theory**

Fundamental Antenna Parameters: System aspects. Fundamental Electromagnetic Theorems: Reciprocity, duality, radiation integral. Wire and Mobile Communications Antennas: Dipoles, loops, ground-effects. Phased Arrays I: Linear & circular, base station antennas. Phased Arrays II: 2D-arrays, infinite-array model, multimedia satellite front-ends. Self-Impedance: Integral equations and moment methods. Mutual-Impedance: Induced EMF method. Aperture Antennas I: Equivalent currents, rectangular apertures, horn-antennas. Aperture Antennas II: Plane-wave expansion, slots, Babinet's principle. Broadband Antennas: Self-complementarity, spirals, log-periodic, Yagi-Uda. Integrated-Circuit Antennas: Patch and micromachined antennas, miniaturization. Beam Forming and Adaptive Arrays: Butler matrix, adaptive algorithms.

#### **ECE 648 Introduction to Photonics**

This course will cover the primary components of a fiber optic system, namely, optical fibers, emitters (semiconductor lasers and light emitting diodes), and photodetectors. It will also provide an overview of the characteristics and underlying physics of guided wave devices and optoelectronic integrated circuits.

#### **ECE 649 Electromagnetic Waves and Antenna Theory**

Review of Maxwell's equations and the wave equations. Solution of the wave equations in free space, wave velocity, wave impedance, Poynting's vector and polarization. Retarded potential functions, EM wave generation with a conducting current, the short uniform current dipole, the small uniform current loop, the radiated electric and magnetic fields. Radiation pattern and radiation resistance of the dipole and the loop. Radiation lobes, half power beamwidth, beam angle, beam efficiency, directivity, directive gain, power gain, antenna efficiency, frequency bandwidth, antenna input impedance. Short and long dipoles, folded dipoles, monopoles, ground plane considerations. Travelling wave antennas, broadband antennas, and frequency independent antennas. Spiral antennas, log periodic antennas, Array antennas. Yagi Uda arrays. Reflector antennas, feed configuration for parabolic

antennas. Arrays, array factors, AM broadcast antenna towers, TV and FM antennas, satellite arrays. Antenna patterns, amplitude patterns, phase patterns. Feed methods, balanced feeds, coaxial feeds, waveguide feeds, impedance matching, stub tuners, baluns, and horns.

#### **ECE 651 Advanced Iterative Methods**

Introduction to advanced iterative methods for solving computationally hard practical engineering problems or efficiently approximating them if they are intractable. Specific topics include representation and searching of graphs, minimum-weight spanning trees, single-source and all-pairs shortest paths, maximum flow networks, graph coloring, NP-complete problems, proofs of NP-completeness, usage of efficient approximation algorithms for NP-complete problems.

#### **ECE 652 Embedded and Real-Time Systems**

This course examines the various building blocks and underlying scientific and engineering principles behind embedded real-time systems. It covers integrated hardware and software aspects of embedded processor architectures, along with advanced topics such as real-time operation, resource/device and memory management, scheduling and resource allocation, hardware/software co-design and optimization. Through embedded FPGA prototyping boards, students will experiment with embedded architectures ubiquitous in mobile phones, portable gaming devices, PDAs, and many other embedded applications.

#### **ECE 653 Advanced Real-Time Systems**

Basic computer architecture and hardware elements relevant to the study of real-time issues; low-level input/output devices, interrupt controllers, and CPU cores; software design and specification methods such as flowcharts, state transition diagrams (finite state automata), and Petri nets; real-time kernels, including task scheduling, interrupt latency, and communication and synchronization of tasks; system performance.

#### **ECE 654 Advanced Computer Networks**

This course covers advanced fundamental principles of Computer Networks. Topics include network architecture, direct link networks, packet switching networks, internetworking, network protocols, flow control, congestion control, traffic management, resource allocation, pricing and applications. The course will also provide a systems and control perspective into communication networks research. It will emphasize fundamental systems issues in networking and survey a variety of techniques that have recently been used to address them, including Queueing Theory, optimization, large deviations, Markov Decision Theory, and Game Theory.

#### **ECE 655 Advanced Operating Systems**

Fundamental principles underlying design of distributed and multiprocessor operating systems; foundations of distributed computing systems; shared multiprocessor systems.

#### **ECE 656 Advanced Computer Architecture**

Design of high-performance uniprocessors. Advanced pipeline design, dynamic instruction scheduling, branch penalty reduction schemes.

**ECE 657 Computer Aided Design for VLSI**

Principles for the automated synthesis, verification, testing and layout of VLSI circuits, concentrating on the CMOS technology. Basic CMOS technology and design rules. Hardware modelling with VHDL. Algorithms and graph theory concepts for design automation. Logic-level synthesis and optimization of combinational and sequential circuits. Simulation. The physical design automation cycle and CMOS technology considerations. Timing analysis and verification. Fault modelling and testing.

**ECE 658 Computer Systems Performance Evaluation and Simulation**

Tools and techniques for analyzing computer hardware, software, and system performance. Benchmark programmes, measurement tools, performance metrics. Deterministic and probabilistic simulation techniques, random number generation and testing. Bottleneck analysis.

**ECE 659 VLSI Design**

MOS transistor theory, standard CMOS design (primitive and complex gates, transmission gates and tri-states), CMOS processing technology and layout design (silicon semiconductor technology, process steps, N-well/P-well/SOI processes, design layers, design rules, layout optimization), circuit characterization and performance estimation, CMOS logic structures, basic memory elements (design and optimization), design of VLSI combinational systems, VLSI testing, subsystem design (data-path and arithmetic units), memory (RAM, multi-port RAM, ROM, content-addressable).

Lab component: Usage of CAD tools for the design, layout, simulation, characterization, and performance estimation of digital VLSI circuits and systems.

**ECE 660 VLSI Test**

Comprehensive and detailed treatment of digital systems testing and testable design. Fundamental concepts as well as the latest advances are considered. Topics include fault modelling and simulation, combinational and sequential circuit test generation, memory and delay test, and design-for-testability methods such as scan and built-in self-test, and testing of embedded cores in systems-on-chip environments.

**ECE 661 Logic Synthesis and Optimization**

Advanced design of logic circuits. Theoretical foundations. Technology constraints. Computer-aided design tools and algorithms. Topics include two-level and multi-level synthesis and optimization of combinational circuits, sequential logic synthesis and optimization, timing optimization, technology mapping and verification.

**ECE 662 Physical Design Automation**

In-depth study of different analytical and heuristic techniques for physical design automation and optimization of VLSI circuits. Emphasis on VLSI design issues encountered in deep sub-micron and nanometer technologies. Theory of circuit layout partitioning and placement algorithms. Global, detailed, and over-the-cell routing. Performance driven layout.

**ECE 663 Distributed Systems**

This course covers the basic techniques developed to support networked computer applications, focusing on synchronization

issues such as global state, election, interprocess communication, distributed mutual exclusion, distributed transaction mechanisms. It also covers consistency models and protocols and replication, and fault tolerance and cryptographic security, which are critical topics on distributed systems. Hence, fault models, reliable multicast, commit, checkpointing, recovery, access control, key management and cryptography issues are also covered.

**ECE 664 Digital Design with FPGAs**

This course provides students with fundamental FPGAs chip knowledge and its application to rapid digital system implementation using top down design in VHDL. Laboratory assignments give students learning experiences that enable them to accomplish the programme outcomes.

**ECE 665 Instrumentation and Sensors**

Signals and Noise, sensors and transducers, signal amplification, data acquisition and conversion, signal measurements and analysis, signal sources and practical issues.

**ECE 667 Microwave Circuits**

The wave equation; Losses in conductors and dielectrics; RF/microwave transmission lines; Transients on transmission lines; Planar lines (microstrip, stripline, coplanar waveguide); Scattering parameters; 3- and 4-port devices (power dividers/combiners, couplers, isolators & circulators); Coupled lines and devices; RF/microwave filters; Microwave active circuits (RF amplifiers, mixers, receiver front ends).

**ECE 671 Neurophysiology and Senses**

Advanced study of neurophysiology, sensory systems and higher functions. The physiology of excitable cells with emphasis on cellular mechanisms, synaptic integration, signal processing, and sensory/motor interactions in nervous systems. Computer simulations and hands-on experience with stimulating and recording neural signals.

**ECE 677 Optical Engineering and Photonics Laboratory**

After successful completion of the course, the student will have an experimentally based understanding of: (i) key optical phenomena (including reflection and refraction, polarisation, diffraction, interference and coherence), (ii) optical waveguiding in single-mode and multimode, (iii) optical fibre attenuation and dispersion, and the impact of these (and transmitter characteristics) on optical fibre-link performance, (iv) the basic operation of erbium-doped fibre amplifiers, (v) the construction and operation of fibre-ring lasers.

**ECE 680 Power Systems Analysis**

Basic and advanced concepts of power systems analysis. Students develop analytical skills to perform analysis of power systems; analyze balanced and unbalanced systems using symmetrical components; study transformers and per unit sequence models, transmission line modelling, power flow solution techniques, symmetrical faults, bus impedance and admittance matrices, power system stability.

**ECE 681 Power Systems Operation and Control**

Students learn the basics of power system generation, operation, and control, study system operation terms like

economic dispatch, optimal power flow, unit commitment, automatic generation control (AGC), and learn how to apply these ideas to power systems. Dynamic and linear programming will be introduced and applied to solve power system problems. Production costing and fuel scheduling. State estimation in power engineering. Deregulation of the power industry, restructuring, and auctions. Advanced problems in power system operation and planning.

#### **ECE 682 Renewable Sources of Energy – Photovoltaics**

Introduction to renewable energy sources with main emphasis on photovoltaic (PV) energy conversion. Current state in Cyprus and potential. Types of photovoltaic systems. History of photovoltaic technology development. Current status: Technology, Policy, Markets.

Solar insulation. Short review of semiconductor properties. Generation, recombination and the basic equations of device physics. Efficiency limits, losses, and measurements. Physics of photovoltaic systems, including basic operating principles, design and technology, and performance of individual solar cells and solar cells systems.

Current fabrication technologies. Design of cells and modules. Other materials. Applications.

#### **ECE 683 Power Electronics**

Introduction to power electronics, switching converters, concept of steady state, ideal switches. Semiconductor devices, I-V characteristics and limitations. Analysis of basic dc-dc converters, buck, boost, buck-boost, SEPIC and Cuk converters, Voltage rectifiers, Power quality issues, single phase and three phase rectifiers Power factor correction circuits (PFC). Thyristor converters, single phase and three phase full bridge converters. Basic magnetic circuits, applications in converters. Analysis of converters with electrical isolation, forward, fly-back, push-pull and full-bridge converters. Synthesis of DC and low frequency sinusoidal AC voltage, bi-directional switching power pole, pulse width modulation, single and three phase inverters. Thermal management, EMI. Applications of switch-mode power supplies, Control of DC and AC motors, uninterruptible power supplies. Applications of power electronics in distributed generation systems, wind, solar and storage systems, in HVDC links. Introduction to Flexible AC Transmission Systems.

#### **ECE 684 Analysis of Power Generation Technologies**

This course will cover the analysis of power generation technologies. Students will be introduced to the fundamentals of thermodynamics such as the energy conservation principle, the first and second laws of thermodynamics, the steam cycles, the air cycles, the fossil fuels, the primary emissions and the greenhouse gas emissions. The European Commission (EC) energy policy for future power systems will be presented and analysis techniques of power plants will be described in detail including the analysis of combined cycle technology, advanced power technologies and nuclear power plants. Analysis techniques for alternative energy sources will be examined: distributed generation, renewable energy sources, EC environmental legislation and hydrogen economy. Students will be taught optimization algorithms and techniques for the technical, economic and environmental analysis of power systems. An on-site visit to a power station is part of the course.

#### **ECE 685 Power System Plant and Operation**

Introduction to the overall design of power plant systems, focusing both on the system and on the component design. Overview of the manufacturing, operation, and thermal aspects of systems and the decisions necessary to deduce an optimal power plant design. Specific concepts: Overhead Transmission Lines: Design and Operation, Underground Power Cables: Design and Operation, Power Transformers: Design and Operation, Technical and Economical Assessments of Power Systems, Earthing and Bonding.

#### **ECE 686 Power System Modeling**

Modeling and real-problem analysis of Power System Plants. Use of commercially available power system modeling software. Case Studies: Travelling Wave Theory in Transmission Lines, Overhead Line Design, Substation Plant Design, Insulation Coordination and HV Testing, Cable and Transformer Design, Transformer De-energisation for Substation Commissioning, Substation Earthing Design.

#### **ECE 690 Fault Tolerant Systems**

The course offers an exposure to advanced concepts in the design of fault-tolerant digital systems, including combinational and dynamic systems. The course blends together techniques from Coding and Complexity Theory, Digital Design, and Control, Automata and System Theory. The topics addressed include: fault models and error manifestations, module and system level fault detection and identification mechanisms, techniques for reliability/availability assessment, coding in computer systems, reconfiguration techniques in multiprocessor systems and VLSI processor arrays, and software fault tolerance techniques.

#### **ECE 701/704 Graduate Seminar**

Seminars exploring current research and topical issues in electrical and computer engineering, focused on the general theme of innovation. Seminars are organised in blocks with related content, and are presented by prominent outside speakers as well as by faculty members and graduate students. Each seminar includes a presentation, in addition to wide-ranging discussions among speakers, faculty, and students. Discussions involve issues such as relations between presented research areas, requirements for further advances in the “state-of-the-art”, the role of enabling technologies, the responsible practice of research, and career paths in engineering. The course requires participation in at least 25 seminar presentations. The graduate seminar coordinator is responsible for assigning a pass/fail grade.

#### **ECE 705 Graduate seminars for M.Eng. students**

The seminars explore current research and topical issues in electrical and computer engineering, addressed at the general theme of innovation. Seminars are organized in blocks with related content, and are presented by prominent outside speakers as well as by faculty members and graduate students. Each seminar includes a presentation followed by a wide-ranging discussion among speakers, faculty, and students. Discussions involve issues such as how the presented research areas are related, requirements for further advances in the “state-of-the-art”, the role of enabling technologies, the responsible practice of research, and career paths in engineering. The degree programme requires successful attendance of at least 12

seminar presentations. The graduate seminar coordinator is responsible for assigning a pass/fail grade. Student participation in department-sponsored half-day and full-day events counts as 2 presentations and 1 presentation, respectively, toward the 12 required presentations.

### **ECE 711-712 Directed Study for M.Sc. Students I and II**

Opportunity for individual study at the M.Sc. level, on topics related to electrical and computer engineering not covered by other courses offered by the Department. Students can initiate the arrangements and file a proposal, in consultation with a faculty member. Requires a final report describing the material examined and the work performed.

### **ECE 713-714 Independent Study for M.Sc. Students I and II**

Opportunity for individual study at the M.Sc. level, on topics related to electrical and computer engineering not covered by other courses offered by the Department. Students can initiate the arrangements and file a proposal, in consultation with one of the faculty members. Requires a final report, describing the material examined and the work undertaken.

### **ECE 721-722 M.Sc. Thesis I and II**

Graduate work leading to the completion of research and writing a Diploma Thesis. To be arranged by students and their Research Supervisor. Refer to the M.Sc. Diploma Thesis section of the graduate guide for additional information.

### **ECE 723-724 Project for M.Eng. EE and CE students**

This course is mandatory for M.Eng. students and aims at the implementation of an individual project, which is required for the M.Eng. degree. The topic of the project is defined by the course instructor in collaboration with the student. This course has a duration of one semester, at the end of which the student must present/demonstrate the results of the project.

### **ECE 731-732 Ph.D. Comprehensive Examination I and II**

Candidacy Examination. Ph.D. students are required to register for ECE 731 during the semester the examination takes place. In the event of failure, a student is permitted a second and final examination, to be taken within four months after the first examination. In this event, the student must register for ECE 732. Refer to the Ph.D. Candidacy section of the graduate guide for additional information.

### **ECE 751-752 Directed Study for Ph.D. Students**

Opportunity for individual study at the Ph.D. level, on topics related to electrical and computer engineering not covered by other courses offered by the Department. Students can initiate the arrangements and file a proposal, in consultation with one of the faculty. Requires a final report describing the material examined and the work performed.

### **ECE 753-754 Independent Study for Ph.D. Students I and II**

Opportunity for individual study at the Ph.D. level, on topics related to electrical and computer engineering not covered by other courses offered by the Department. Students can initiate the arrangements and file a proposal, in consultation with one of the faculty members. Requires a final report, describing the material examined and the work undertaken.

### **ECE 761-764 Research Stage of Ph.D. Dissertation IA, IIA, IIIA and IVA**

Graduate research leading to a doctoral dissertation. To be arranged by the students and their Research Supervisor. Refer to the Doctor of Philosophy Degrees section of the graduate guide for additional information.

### **ECE 765-768 Research Course for Ph.D. Dissertation IB, IIB, IIIB and IVB**

Graduate research leading to a doctoral dissertation. Can be taken in conjunction with other graduate courses. To be arranged by the students and their Research Supervisor. Refer to the Doctor of Philosophy Degrees section of the graduate guide for additional information.

### **ECE 771-772 Writing Stages of Ph.D. Dissertation**

Programme of graduate work leading to the written doctoral dissertation. To be arranged by the students and their Research Supervisor. Refer to the Doctor of Philosophy Degrees section of the graduate guide for additional information.

### **ECE 795 Pattern Recognition**

The aim of the course is to provide the students with a solid background in pattern recognition using a variety of methods. The following topics are covered: overview of probability and decision theory, Bayesian inference, linear models for regression and classification, nonlinear classifiers and neural networks, kernel methods and support vector machines, Bayesian networks and Markov random fields, principal and independent component analysis, mixture models and expectation maximization, and sampling methods.

### **ECE 798-799 Special Topics in Electrical and Computer Engineering**

Presentation and discussion of special topics in Electrical and Computer Engineering. Opportunity for graduate students and instructors to investigate a topic of common interest. Topic and responsible faculty announced each term, as subjects of interest are identified. These subjects are given independently or sequentially, as circumstances require.

## **Research Interests of the Academic Staff**

#### **• Marco Antoniadis, Lecturer**

Dr. Marco Antoniadis' research interests lie in the area of applied electromagnetics, and specifically in the areas of passive and active antenna design, RF/microwave circuits and negative-refractive-index metamaterials for use in broadband wireless communications, radio-frequency identification, wireless sensing, biomedical applications and alternative energy systems.

#### **• Charalambos A. Charalambous, Associate Professor**

High and Low Frequency Transient Phenomena in the Power Network, Power System Plant Modelling and Visualisation (for extreme operating conditions), Power Transformers Ferroresonance, Earthing and Control of DC and AC Corrosion, Effect of Climate Change on Power System Infrastructure, System Protection Schemes for Distributed Generation.

• **Charalambos D. Charalambous, Professor**

Stochastic Systems, Information Theory, large deviations and optimization, with applications in robust control, estimation, decision, telecommunications, sensor networks.

• **Georgios Ellinas, Associate Professor**

Optical Networks, Fault Detection, Fault Identification/Isolation, Fault Protection/Restoration, Integrated Routing, Switch Fabric Architectures, Optical Packet Switching, Optical Access Networks, Optical Network Security, Multicasting, Traffic Grooming, Optical Control Plane Design, WDM Network Architectures.

• **George E. Georghiou, Associate Professor**

Electromagnetic Field Measurements and Compatibility Testing; Utilisation of Electromagnetic Fields in Emerging Technologies (Transcranial Magnetic Stimulation, DNA Microchip Electrophoresis, Electronic Manipulation of Nanoparticles, Microwaves and RF for Heating and Food Processing); Plasma Processes and Gas Discharges (Plasma Sources at Atmospheric Pressure for Biomedical Applications, Utilisation of Gas Discharges for Plasma Production); Wireless Power Applications; Numerical Modelling of Multiphysics Problems (Development of Serial and Parallel Algorithms, Computational Electromagnetics Calculations); Renewable Sources of Energy.

• **Julius Georgiou, Associate Professor**

Low-power analog and asynchronous-digital application specific integrated circuits (ASICs), implantable biomedical devices, bio-inspired electronic systems, silicon-on-insulator design, sub-threshold circuits and systems, sensors and related systems.

• **Christoforos Hadjicostis, Professor**

Fault-tolerant dynamic systems; error control coding; reliable and trustworthy design of large-scale systems and networks; distributed control and monitoring; discrete event systems; communication and signal processing systems; algebraic system analysis.

• **Stavros Iezekiel, Associate Professor**

Microwave photonics: high-speed laser diodes, photodiodes and modulators, mm-wave fibre radio systems, microwave-photonic packaging, lightwave measurements, all-optical microwave filters.

• **Ioannis Krikidis, Assistant Professor**

Communication Theory, Wireless Communications, MIMO Communications, Cooperative Networks, Relay Channel, Green Radio, Energy Harvesting, RF Energy Transfer, Cognitive Radio, Physical-layer Security, Resource Allocation, Convex Optimization, Queuing Theory, Probability Theory, Performance Analysis, High Order Statistics, Information Theory, Reconfigurability.

• **Elias Kyriakides, Associate Professor**

Research interests include the modelling and parameter estimation of synchronous machines, electric load forecasting, renewable energy sources, the security and reliability of the power system network, and the optimization of the teaching methods in power engineering using the Internet and modern learning techniques.

• **Maria K. Michael, Associate Professor**

Computer-aided design and test automation for VLSI and embedded systems (including SoCs and multi/many-core based systems), testing and fault diagnosis, design for testability, microprocessor test, fault tolerance and reliability, test-based/semi-formal verification and timing analysis, decision diagrams and Boolean satisfiability, graph theory and algorithms for VLSI.

• **Georgios Mitsis, Assistant Professor**

Nonlinear and nonstationary systems identification, bayesian model order selection for nonlinear systems, biosignal processing and mathematical modelling of biological systems, quantitative/systems physiology, cardiovascular and respiratory control mechanisms, cerebral hemodynamics and functional magnetic resonance imaging of the brain, glucose metabolism and control.

• **Chrysostomos Nicopoulos, Assistant Professor**

Multi/many-core computer architecture, packet-based Networks-on-Chip (NoC), NoC router architectures for Chip Multi-Processors (CMP) and heterogeneous Multi-Processor Systems-on-Chip (MPSoC), on-chip interconnection architectures, three-dimensional (3D) system architectures, embedded system architectures, and VLSI digital system design.

• **Christos Panayiotou, Associate Professor**

Optimization and control of discrete-event systems with applications to computer communication networks, manufacturing systems and transportation networks.

• **Constantinos Pitris, Associate Professor**

Optics and biomedical imaging. The underlying goal of this research is the introduction of new technologies in clinical applications for the improvement of the diagnostic and therapeutic options of modern health care systems to directly impact patient prognosis and outcome.

• **Marios Polycarpou, Professor**

Systems and control, adaptive and intelligent control, neural networks and computational intelligence, fault diagnosis and cooperative control.

• **Theocharis Theoharides, Assistant Professor**

High-performance, Reliable and Energy-efficient Systems-on-Chip Design and Embedded Systems Architectures; Interconnection Architectures; Design of Hardware Architectures for multimedia, artificial intelligence, signal processing and machine vision applications; Computer Arithmetic; Low Power and Reliable Architectures and VLSI Design.

**Contact Details**

**Department Secretariat**

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Fax: 22895079

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[www.ucy.ac.cy/ece/en](http://www.ucy.ac.cy/ece/en)

# Department of Mechanical and Manufacturing Engineering



*The aim of the graduate programmes of the MME Department is to promote scholarly research leading to discovery, learning and innovation according to international standards of excellence, in both the broader discipline of MME, as well as in related multidisciplinary and interdisciplinary fields. The graduate programmes are research oriented in order to support and strengthen the research and educational activities of the Department and the University. The research focuses on areas that also serve the interests of Cypriot society, by identifying and providing solutions to local issues and by promoting opportunities for local development and improvement of life in Cyprus.*

*The Department offers the following postgraduate degrees:*

- *Master of Science (M.Sc.) in Mechanical and Manufacturing Engineering*
- *Master of Science (M.Sc.) in Advanced Materials and Nanotechnology*
- *Doctor of Philosophy (Ph.D.) in Mechanical and Manufacturing Engineering*
- *Doctor of Philosophy (Ph.D.) in Advanced Materials and Nanotechnology*

## **Introduction**

The Department of Mechanical and Manufacturing Engineering (MME) provides modern, high quality degree programmes at both undergraduate and postgraduate levels. These programmes emphasize fundamental principles and laboratory practice that prepare young engineers concerned with the challenges of continuing to meet society's needs in a rapidly changing environment. They undertake conceptualization, design, analysis, and investigation in an academic environment that is based on cooperation among faculty, students, industry, research, and professional organisations. Students are taught in a dynamic environment and have the opportunity to work with and learn from research teams at the forefront of knowledge.

The MME Department each year admits graduate students at the Master (M.Sc.) and Doctoral (Ph.D.) levels.

## **Research Areas**

Research in the MME Department is focused on a variety of areas, including:

- Energy Systems
- Materials Science and Technology
- Mechanical Systems Modelling and Controls
- Design, Manufacturing, Automation and Robotics
- Micro- and Nanotechnology
- Biomedical Engineering
- Computational mechanics of solids and fluids

## **Mechanical and Manufacturing Engineering**

The Department offers graduate degrees in the areas of:

- (i) Mechanical and Manufacturing Engineering and
- (ii) Advanced Materials and Nanotechnology.

Since the time of Hephaistos, Daedalos, Archimedes and Heron, Mechanical and Manufacturing Engineering has played a key role in serving the needs of modern society. Manufacturing Engineering focuses on inventing, designing and producing a wide variety of novel and useful products such as airplanes and spacecraft, robots

and computer chips, sporting goods and medical instruments. Mechanical Engineering deals with studying, understanding and improving their operation. The field of Mechanical and Manufacturing Engineering is also the gateway for rising interdisciplinary areas of research, such as Nanotechnology and Biomedical Engineering, which promise to dramatically transform our lives and society in the near future. In addition to automobiles, air conditioners and water-bikes that we use and work with every day, society depends on Mechanical and Manufacturing Engineers to provide new technologies and tools for its needs in health, safety, information, industry, space exploration, transportation, agriculture and food, and power production, along with education, research and professional employment of young people.

### Advanced Materials and Nanotechnology

Materials Science studies the fundamental physical and chemical basis for the controlled combination of atoms to form new compounds, phases, and microstructures, as well as the characterization of the resulting structures and properties, aiming to understand the structure-processing-properties relationships in the final product. Materials Technology focuses on the synthesis of materials in useful quantities, and on the processing of materials into engineering products. Materials Technology draws heavily on the fundamental knowledge gained from materials science, and adapts the processes involved for the scale and requirements of the application. Materials Science and Technology is an interdisciplinary research area appearing in an autonomous and legible form. During the last few decades we have witnessed a significant revolution in the applications of novel materials. Some examples of this revolution include the explosive evolution of microelectronics, the extended use of synthetic polymers, the development of high-strength steels capable of operating at elevated temperatures, the development of new biocompatible materials as well as the applicability of highly transparent glasses used in optical-fiber telecommunications. Furthermore, the area of Nanotechnology, i.e., the Science and Technology of Nanostructures, has come to the fore at an international level, as a broad interscientific area of research and development.

### Financial Support

The University of Cyprus supports many graduate students through teaching assistantships, the number of which depends on the teaching needs of the Department. There are also additional funding opportunities, information on which is available through the Service of Academic Affairs and Student Welfare. A number of

students can also be financially supported through research programmes.

### Master of Science Degree (M.Sc.)

#### Admission

Applicants to the M.Sc. Programme must possess the equivalent of a B.Sc. Degree in Mechanical and/or Manufacturing Engineering, or in a related field of science or engineering, from the University of Cyprus or other accredited institution or programme.

Candidates must submit an application form to the Department of Mechanical and Manufacturing Engineering within the announced time limits. All applications are evaluated by the Graduate Studies Committee of the MME Department, which makes suggestions to the Council of the Department for final approval of the selected candidates. The applicants to the M.Sc. programme are selected according to the following criteria, while the MME Department reserves its right to fill only as many announced graduate student positions as the Department deems appropriate:

- Quality of the applicant's background in breadth and depth, and past performance in his/her undergraduate or graduate studies
- Evidence of ability for original and innovative research in the proposed area of study
- Relevance of the proposed field of research to the interests of the Department, the University and the society
- Availability of graduate positions in the programme and the necessary infrastructure and resources to support the proposed M.Sc. work

Students should select, in consultation with their advisors, the courses that will help them in the completion of their M.Sc. thesis. Most coursework eligible for the M.Sc. programme must be graduate-level courses. M.Sc. students are considered full-time if they are enrolled in 18 or more ECTS each semester.

#### Transfer of Credit and Student Exchanges

Students admitted to the M.Sc. Programme of the Mechanical and Manufacturing Engineering Department from an accredited graduate programme may, upon approval of their petition to the MME Graduate Studies Committee, transfer ECTS for graduate coursework they have successfully completed towards the requirements of the M.Sc. degree, according to the General Graduate Studies Regulations.

In the framework of inter-university student exchange programmes, M.Sc. students may, in agreement with their advisor and approval of their petition to the MME

Graduate Studies Committee, attend courses and conduct research at an accredited university abroad.

### Master of Science Thesis

An original research study and a thesis are required for the M.Sc. degree. The subject of the student's research is chosen in consultation with his/her advisor. The student must submit a thesis proposal at least two semesters before the intended date of graduation. Furthermore, one semester before the intended date of graduation, the student must make a progress presentation to the members of his/her committee.

For more information on the writing and presentation of the thesis, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department's Secretariat.

### Duration of Studies

The minimum duration of the M.Sc. programme for full-time students in Mechanical and Manufacturing Engineering is three semesters, including the summer between the two academic years. The maximum duration for the completion of the M.Sc. degree is defined by the University regulations (eight semesters).

## MASTER OF SCIENCE (M.Sc.) IN MECHANICAL AND MANUFACTURING ENGINEERING

Graduate students are awarded the M.Sc. Degree in Mechanical and Manufacturing Engineering after successfully completing the required programme of study and successfully defending and writing their M.Sc. thesis.

### Programme Structure

The programme of study leading to the M.Sc. Degree in Mechanical and Manufacturing Engineering requires the completion of at least of 120 ECTS in graduate level courses (beyond any taken for the Bachelors degree) and research work distributed as follows:

<b>Compulsory Courses</b>	<b>32 ECTS</b>
– Course selection from Group A	
<b>Thesis Research (MME 701-704)</b>	<b>60 ECTS</b>
<b>Graduate Seminar I-IV (MME 501-4)</b>	<b>4 ECTS</b>
<b>Selection of at least one of the following:</b>	<b>24 ECTS</b>
– Additional Coursework outside MME or from Group A	
– Additional Coursework from Group B	
– Independent Study (MME 505)	
<b>Total</b>	<b>120 ECTS</b>

## MASTER OF SCIENCE (M.Sc.) IN ADVANCED MATERIALS AND NANOTECHNOLOGY

Graduate students are awarded the M.Sc. Degree in Advanced Materials and Nanotechnology after successfully completing the required programme of study and successfully defending and writing their M.Sc. Thesis.

### Programme Structure

The programme of study leading to the M.Sc. degree in Advanced Materials and Nanotechnology requires the completion of at least 120 ECTS in graduate level courses (beyond any taken for the Bachelor degree) and research work distributed as follows:

<b>Compulsory Courses</b>	<b>32 ECTS</b>
– Course selection from Group B	
<b>Thesis Research (MME 701-704)</b>	<b>60 ECTS</b>
<b>Graduate Seminar I-IV (MME 501-4)</b>	<b>4 ECTS</b>
<b>Selection of at least one of the following:</b>	<b>24 ECTS</b>
– Additional Coursework outside MME or from Group B	
– Additional Coursework from Group A	
– Independent Study (MME 505)	
<b>Total</b>	<b>120 ECTS</b>

### Indicative Programme of Studies - M.Sc. Degree

	ECTS
<b>First Semester</b>	
Course I	8
Course II	8
Course III	8
Postgraduate Seminar I	1
Thesis Research I	5
<b>Total</b>	<b>30</b>
<b>Second Semester</b>	
Course IV	8
Course V	8
Course VI or Independent Study	8
Postgraduate Seminar II	1
Thesis Research II	5
<b>Total</b>	<b>30</b>
<b>Third Semester</b>	
Course VII or Independent Study	8
Postgraduate Seminar III	1
Thesis Research III	20
<b>Total</b>	<b>29</b>
<b>Fourth Semester</b>	
Postgraduate Seminar IV	1
Thesis Research IV	30
<b>Total</b>	<b>31</b>

## Doctor of Philosophy Degree (Ph.D.)

Graduate students are awarded a doctoral degree by the Department of Mechanical and Manufacturing Engineering upon completing the required programme of study and successfully writing and defending their Ph.D. thesis.

### Admission to the Ph.D. Programme

Applicants to the Ph.D. programme must hold the equivalent of a B.Sc. or M.Sc. degree in Mechanical and/or Manufacturing Engineering, or in a related field of science or engineering, from the University of Cyprus or other accredited university.

Candidates must submit an application form to the Department within the announced time limits. The evaluation criteria for candidates to the Ph.D. programme are the same as for applicants to the M.Sc. programme (see relevant paragraph above).

Familiarity with the English language is required for admission to the doctoral programme.

Students should select, in consultation with their advisors, the courses that will fulfill the requirements for their Ph.D. thesis. Most coursework eligible for the Ph.D. programme must be graduate-level courses. Ph.D. students are considered full-time if they are enrolled in 18 or more ECTS each semester.

### Transfer of Credit and Student Exchanges

Students who have joined the doctoral programme after successfully completing a relevant M.Sc. programme can be credited with up to 60 ECTS.

ECTS for previously completed graduate work are credited only after approval by the Graduate Studies Committee of the MME Department, following a justified petition by the student.

In the framework of inter-university student exchange programmes, Ph.D. students may, upon agreement with their advisor and approval of their petition to the MME Graduate Studies Committee, attend courses and conduct research at an accredited university abroad.

### Comprehensive Examination

Admission to candidacy for the Ph.D. programme is granted when the student has satisfactorily passed a written comprehensive examination.

The Comprehensive Examination must be taken no later than the sixth academic semester from the time of enrollment in the Ph.D. programme.

### Ph.D. Thesis

An original research study and a thesis are required for the Ph.D. degree. The subject of the students' research is chosen in consultation with their advisor.

### Dissertation Proposal

Doctoral students must prepare a brief written proposal (no more than 20 pages) of their intended doctoral research, and make a comprehensive oral presentation before the Dissertation Committee and a representative from the MME Graduate Studies Committee that demonstrates a sound understanding of the dissertation topic, the relevant literature, the techniques to be employed, the issues to be addressed and the work completed to-date. The proposal must be made two to four semesters after the successful completion of the Comprehensive Examination.

### Doctoral Dissertation

The doctoral dissertation must address current and valid scientific and/or technical issue(s) primarily by fundamental research, leading to new scientific and/or engineering knowledge. Applied research and development aspects, leading to a prototype or an application of this basic research, may also be included as a secondary component of the dissertation. The research must be novel and original, and of the highest scholarly standards, qualifying it as acceptable for publication in international academic journals.

The dissertation must be based on significant research findings by the doctoral candidate, distinguished clearly from the work of others, testifying to the candidate's personal contribution and scholarship, and acknowledging support by others in or outside the University. In addition, the broader impacts of the research must be highlighted in the dissertation, in terms of opening new scientific or engineering areas or issues, and generating new technical applications and innovations. Broader impacts must also be indicated in promoting learning innovation, education at all student levels and training of the workforce; involving underrepresented groups in science and engineering; establishing physical infrastructure (laboratory resources, software programmes, etc.) and virtual resources (centres, networks, etc.); setting dissemination plans through scholarly publications and presentations, and outreach through the media to the public, etc.; and indicating societal implications of the work, including public health and safety, security, environmental impacts, etc.

### Dissertation Defence

Doctoral candidates are required to defend the originality, independence, and quality of their research during an oral dissertation defence.

For more information about the procedure for the Comprehensive Exam, the Dissertation Proposal, the Doctoral Dissertation and the Dissertation Defence, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

### Duration of Studies

The minimum duration of the Ph.D. programme for full-time students in Mechanical and Manufacturing Engineering is defined by the University regulations. The maximum duration for the completion of the Ph.D. degree is also defined by the University regulations (16 semesters).

### DOCTOR OF PHILOSOPHY (Ph.D.) IN MECHANICAL AND MANUFACTURING ENGINEERING

Graduate students are awarded the Ph. D. Degree in Mechanical and Manufacturing Engineering after completing the required programme of study, passing the Comprehensive Examination and successfully defending and writing their Ph.D. thesis.

### Structure of the Programme

The programme of study leading to the Ph.D. Degree in Mechanical and Manufacturing Engineering requires the completion of at least of 240 ECTS in graduate level courses (beyond any taken for the Bachelor degree) and research work distributed as follows:

<b>Compulsory Courses</b>	<b>48 ECTS</b>
– Course selection from Group A	
<b>Thesis Research (MME 801-829)</b>	<b>160 ECTS</b>
<b>Graduate Seminar I-IV (MME 601-4)</b>	<b>8 ECTS</b>
<b>Selection of at least one of the following:</b>	<b>24 ECTS</b>
– Additional Coursework outside MME or from Group A	
– Additional Coursework from Group B	
– Independent Study (MME 605)	
<b>Total</b>	<b>240 ECTS</b>

### DOCTOR OF PHILOSOPHY (Ph.D.) IN ADVANCED MATERIALS AND NANOTECHNOLOGY

Graduate students are awarded the Ph.D. Degree in Advanced Materials and Nanotechnology after completing the required programme of study, passing the Comprehensive Examination and successfully defending and writing their Ph.D. thesis.

### Structure of the Programme

The programme of study leading to the Ph.D. Degree in Advanced Materials and Nanotechnology requires the completion of at least of 240 ECTS in graduate level courses (beyond any taken for the Bachelors degree) and research work distributed as follows:

<b>Compulsory Courses</b>	<b>48 ECTS</b>
– Course selection from Group B	
<b>Thesis Research (MME 801-829)</b>	<b>160 ECTS</b>
<b>Graduate Seminar I-IV (MME 601-4)</b>	<b>8 ECTS</b>
<b>Selection of at least one of the following:</b>	<b>24 ECTS</b>
– Additional Coursework outside MME or from Group B	
– Additional Coursework from Group A	
– Independent Study (MME 605)	
<b>Total</b>	<b>240 ECTS</b>

### Indicative Programme of Studies – Ph.D. Degree

	ECTS
<b>First Semester</b>	
Course I	8
Course II	8
Course III	8
Postgraduate Seminar I	1
Thesis Research I	5
<b>Total</b>	<b>30</b>
<b>Second Semester</b>	
Course IV	8
Course V	8
Course VI	8
Postgraduate Seminar II	1
Thesis Research II	5
<b>Total</b>	<b>30</b>
<b>Third Semester</b>	
Course VII	8
Course VIII	8
Postgraduate Seminar III	1
Thesis Research III	15
<b>Total</b>	<b>32</b>
<b>Fourth Semester</b>	
Course IX or Independent Study	8
Postgraduate Seminar IV	5
Thesis Research IV	15
<b>Total</b>	<b>28</b>
<b>Fifth Semester</b>	
Thesis Research VA	10
Thesis Research VB	10
Thesis Research VC	10
<b>Total</b>	<b>30</b>

#### Sixth Semester

Thesis Research VIA	10
Thesis Research VIB	10
Thesis Research VIC	10
<b>Total</b>	<b>30</b>

#### Seventh Semester

Thesis Research VIIA	10
Thesis Research VIIB	10
Thesis Writing I	10
<b>Total</b>	<b>30</b>

#### Eight Semester

Thesis Research VIIIA	10
Thesis Research VIIB	10
Thesis Writing II	10
<b>Total</b>	<b>30</b>

### List of Graduate Level Courses

#### Group A

MME 511 Transport Phenomena
MME 512 Advanced Engineering Thermodynamics
MME 513 Computational Fluid Mechanics
MME 514 Incompressible Fluid Dynamics
MME 515 Introduction to Parallel Computing for Engineers: Architectures, Algorithms and Applications
MME 516 Renewable Energy Technology
MME 517 Solar Energy Systems
MME 521 Computer-Controlled Systems
MME 522 Multivariable Feedback Control
MME 523 Signal Processing
MME 524 Modelling and Analysis of Dynamic Systems
MME 531 Continuum Mechanics
MME 532 Advanced Mechanics of Vibration
MME 533 Biomedical and Industrial Applications of Engineering Acoustics
MME 534 Topics in Biomedical Ultrasound
MME 535 Medical Diagnostic Imaging
MME 536 Introduction to Magnetic Resonance
MME 538 Physiological Foundations for Engineers
MME 541 Manufacturing Process Automation
MME 542 Introduction to Robotics
MME 611 Statistical Theory and Modelling of Turbulent Flow
MME 621 Advanced Engineering Controls
MME 622 Non-Linear Dynamics
MME 623 Advanced Multi-Body Dynamics
MME 631 Non-Linear Acoustics

#### Group B

MME 553 Surface Engineering
MME 554 Characterization Techniques of Bulk and Nano-Materials
MME 555 Polymers in Medical Applications
MME 556 Fundamentals of Ceramics

#### MME 557 Polymer Nanocomposites

MME 561 Laser and their Applications
MME 562 Semiconductor Processing Technology
MME 563 Materials Physics
MME 564 Nanomechanics
MME 565 Physical Principles, Design and Fabrication of MEMs
MME 566 Advanced Semiconductor Materials and Nanodevices
MME567 Materials for Energy Production, Storage and Conversion

### Course Descriptions

It is anticipated that some minor amendments to the course offerings and content summaries provided here may occur in an effort to further improve the MME curriculum. After the number, name and description of each course, there is an indication of any necessary prerequisites.

Unless otherwise stated, all courses are credited with 8 ECTS.

#### MME 501-4 Graduate Seminar I-IV (1 ECTS)

*Course must be continued over multiple semesters.*

Obligatory participation of the students enrolled in the M.Sc. graduate programme of the Department of Mechanical and Manufacturing Engineering in all graduate seminars organised by the Department for four semesters. Open to M.Sc. students who must conduct a seminar on a topic that could be related to their research interests.

#### MME 505 Independent Study

Graduate work on an independent academic project of the student's choice with consent of the advisor. May include theoretical, computational, experimental or combined work, relevant to a fundamental issue with applied and/or educational impacts. Includes preparation of comprehensive documentation and a presentation of the work to the MME Department. Open to M.Sc. students only as an elective.

#### MME 511 Transport Phenomena

*(Prerequisites: Instructor's consent)*

Conservation laws, with an emphasis on the similarities between the different mechanisms for the transport of heat, mass and momentum. Theory of molecular transport. Diffusion phenomena in stationary, flowing and unsteady processes. Mass diffusion in chemically reacting, multiphase and multi-component systems. Computational techniques. Selected special topics and applications may include turbulent convective flows, combustion and materials processing.

#### MME 512 Advanced Engineering Thermodynamics

*(Prerequisites: Instructor's consent)*

Thermodynamic analysis of engineering systems, emphasizing systematic methodology for application of basic principles. Introduction to availability analysis. Thermodynamics of gas mixtures and reacting systems. Modern computational equations of state. Thermodynamics of condensed phases, including solutions. Thermodynamics of biological systems.

**MME 513 Computational Fluid Mechanics**

*(Prerequisites: Knowledge of a computer language and advanced level courses in Transport Phenomena and Continuum Mechanics)*

This course is devoted to the numerical solution of partial differential equations encountered in engineering sciences. Finite difference and finite element methods are introduced and developed in a logical progression of complexity. These numerical strategies are used to solve actual problems in a number of actual engineering problems. Computer exercises are required to illustrate the concepts discussed in class.

**MME 514 Incompressible Fluid Dynamics**

*(Prerequisites: Fundamentals of thermodynamics and mechanics, knowledge of advanced mathematics, undergraduate courses in Fluid Mechanics)*

An introduction to graduate level fluid dynamics including dimensional analysis, Eulerian and Lagrangian descriptions, flowlines, conservation equations, governing equations of viscous fluid motion, exact solutions of Navier-Stokes and Euler equations, unsteady flows, laminar boundary layer theory, turbulence, separation, Stokes flow, vorticity dynamics, potential flow and surface flows.

**MME 515 Introduction to Parallel Computing for Engineers: Architectures, Algorithms and Applications**

*(Prerequisites: Instructor's consent)*

Parallel architectures design, examples of parallel computers, fundamental communication operations, performance metrics, parallel algorithms for sorting, matrix problems, graph problems, fast Fourier transforms, dynamic load balancing, types of parallelisms, parallel programming paradigms, message passing programming in MPI, shared-address space programming in threads. Focus areas may cover unstructured mesh applications, turbulence and combustion, nanofluidics and molecular dynamics, industrial applications, climate modelling, atmospheric and oceanic global simulation, and interdisciplinary applications.

**MME 516 Renewable Energy Technology**

*(Prerequisites: Instructor's consent)*

The Energy Problem and Renewable Energy Sources (RES) - Historical Development of Energy Technologies & current status: Energy Sources and Energy Consumption (worldwide, Europe, Cyprus) - Towards a Sustainable Energy Future - The Development of Renewable Energy in Europe and the world - RES in Cyprus - Short and Long Term Prospects of RES (world, Europe, Cyprus) - Methods of Analysis and Prolexis: Wind Potential - Solar Radiation - Biomass - Hydroelectric Resources - Sea waves / ocean currents - Wind - Passive & Active Solar Systems - Bioclimatic Architecture - Photovoltaics - Small Hydroelectric - Geothermal Energy - Hydrogen - Fuel Cells

**MMK 517 Solar Energy Systems**

*(Prerequisites: Instructor's consent)*

The course focuses on characteristics of solar systems and the potential of the exploitation of solar radiation for passive and thermal production. Introduction to passive and active solar systems. Analysis of solar collectors and systems for hot water, space heating, heating of swimming pools and industrial facilities. Converting thermal energy into cooling for solar air-conditioning of buildings and basic principles of thermal power stations.

**MME 521 Computer-Controlled Systems**

*(Prerequisites: Instructor's consent)*

Focus on design and control of mechanical systems, employing digital computers as real-time controllers. Mathematical difference models, Z-transforms, and sampled control techniques in the frequency and time domain. Design of discrete-time controllers by conversion from continuous-time or directly. Students use graphical programming (Matlab/Simulink) and instrumentation software (LabVIEW) to programme their control strategies developed in simulation, and to interface with hardware sensors and actuators in laboratory exercises: monitoring and control of meteorological signal station, computerized electrocardiograph monitor, controlled separation vessel in a chemical plant, and illumination control system for machine vision.

**MME 522 Multivariable Feedback Control**

*(Prerequisites: Instructor's consent)*

This course extends basic undergraduate courses on control to multi-input multi-output linear systems. Concepts such as state space representation, controllability, observability, multivariable frequency response functions, zeros and poles are introduced. Design of controllers by pole and zero placement. Robustness as a means of dealing with uncertainty. Matlab course projects for modelling and controlling real case multivariable processes.

**MME 523 Signal Processing**

*(Prerequisites: Instructor's consent)*

The aim of this course is to introduce students to modern signal processing techniques currently used to (a) decipher complicated processes in engineering and biological systems; (b) detect damage and monitor the health of engineering components and bio-engineering systems and; (c) characterise the intricacies of time-varying and non-linear systems. Techniques of signal analysis and synthesis based on Fourier Transform, Hilbert transform, time – frequency distributions, wavelet transform, and multi-resolution analysis are introduced through examples taken from the disciplines mentioned above.

**MME 524 Modelling and Analysis of Dynamic Systems**

*(Prerequisites: Instructor's consent)*

The idea behind this course is to use a unified approach to abstracting real mechanical, fluid, and electrical systems into proper models in graphical and state equation form to meet engineering design and control system objectives. The emphasis is not on the mechanics of deriving equations but rather on understanding how the engineering task defines the modelling objectives that determine what modelling assumptions are appropriate. The bond graph language, which is a graphical power topology of a dynamic system, is taught to help students easily represent models of multi-energy domain systems. This then allows causality, as well as system analysis tools, to be used to determine the correctness of the modelling assumptions. Project-like problem sets are required to reinforce the theoretical concepts presented in the lecture. A final project on a topic of the student's research area will reinforce the concepts taught in this course.

**MME 531 Continuum Mechanics**

*(Prerequisites: Instructor's consent)*

Emphasis on the distinction between general principles that apply to all deforming materials and the specific constitutive

assumptions that are made when modelling material behaviour. The course includes a brief review of the necessary mathematics and then proceeds to the kinematics of deformable media, the concepts of stress and stress transformations, and the general balance laws. The remaining course examines general constitutive theory and constitutive relations for selected materials that relate to structural, fluid dynamics, materials processing and materials handling. Also covered are exact solutions for bending and torsion: thick-walled pressure vessels, rotating disks, stress functions for two- and three-dimensional problems and bending and torsion of non-symmetric beams.

### **MME 532 Advanced Mechanics of Vibration**

*(Prerequisites: Instructor's consent)*

Engineering structures, in response to impact, wind, imbalance and any other load of time-varying nature, vibrate. This course aims to familiarise students with techniques of modelling and analysing both theoretically and experimentally vibrating structures. Topics offered: simple harmonic motion and forced vibration of single degree of freedom systems, derivation of equations of motion of systems with coupled coordinates using generalized coordinates and Lagrange's equations, forced vibration analysis of multi-degree of freedom systems, theoretical and experimental determination of mode shapes, vibration analysis of continuous systems and introduction to structural modification as a means of controlling vibration levels. A combined experimental and computational course project.

### **MME 533 Biomedical and Industrial Applications of Engineering Acoustics**

*(Prerequisites: Instructor's consent)*

This course is an introduction to physical acoustics for engineering and science majors. It gives the physical basis for problems found in many engineering applications including biomedical ultrasound, room acoustics, noise control, and sonar. This course covers: plane waves in fluids, transient and steady-state reflection and transmission, refraction, strings and membranes, rooms, absorption and dispersion, spherical and cylindrical waves, radiation from baffled piston, and medical ultrasound arrays. The course includes laboratory sessions on ultrasound beams with usage of related equipment such as function generator, digital oscilloscope, power amplifier, and micropositioners. Sound pressure level measurements for noise control are also taken with an SPL meter.

### **MME 534 Topics in Biomedical Ultrasound**

*(Prerequisites: Instructor's consent)*

This course covers a variety of topics and applications in medical ultrasound and is targeted to engineers and students of natural sciences. Topics covered are: nonlinear acoustics, harmonic generation and shock waves; parametric array; medical imaging, nonlinear imaging techniques; bubble dynamics, cavitation, nonlinear equations of motion of spherical oscillating bubbles; thermal and mechanical applications of ultrasound in medicine; ultrasound-enhanced drug delivery.

### **MME 535 Medical Imaging - Diagnostic Ultrasound**

*(Prerequisites: Instructor's consent)*

This course covers the basic science and physics of diagnostic ultrasound. A short introduction to the relevant acoustics needed for ultrasound imaging is given first. It includes reflection and transmission, refraction, acoustic impedance, sound beams, arrays, beamforming, ultrasound propagation through tissue and

blood, attenuation, scattering, and nonlinear properties of tissues. The current equipment technology is presented and explained. The following modes of imaging are covered: M-mode, B-mode, Doppler, Harmonic Imaging, and 3D imaging. Emphasis is also placed on ultrasound contrast agents and specifically imaging and quantification of tumor angiogenesis. The course includes a laboratory component that covers some of the topics above. In laboratory exercises, students use a modern diagnostic ultrasound scanner and also observe clinical examinations.

### **MME 536 Introduction to Magnetic Resonance**

*(Prerequisites: Instructor's consent)*

This course is designed for graduate students and senior undergraduates who seek an in-depth knowledge in Magnetic Resonance Imaging. It focuses on the principles and physics of nuclear magnetic resonance, imaging processing and reconstruction, hardware systems and instrumentation. It requires prior knowledge of simple and advanced mathematics, linear systems and image processing, as well as basic knowledge of electrical circuits. Integral to understanding such a diagnostic modality is some basic knowledge of radiography and physiology of major organ systems such as the cardiovascular and neurovascular, for which reference is made. The course will introduce students to some advanced imaging techniques and novel methods of MRI. The course covers the fundamentals of Magnetic Resonance, pulse sequences and image contrast, signal, noise and resolution, hardware and spectroscopy, the molecular environment and relaxation and spectroscopy and spectroscopic/multinuclear imaging. Advanced topics discussed include cardiac imaging, parallel imaging, frequency selective techniques, flow encoding, angiography, diffusion, elastography and MRI.

### **MME 538 Physiological Foundations for Engineers**

*(Prerequisites: Instructor's consent)*

This course recognizes and quantifies the role of electro-mechanical phenomena and manufacturing processes in biological organisms from the cellular to the organ level. Thermal, electro-mechanical, fluid-mechanical control mechanisms and their interrelations and interdependence with synthetic and regenerative mechanisms are discussed and evaluated in cells, tissues, organs and the human body through consideration and discussion of principles of physiology. At this level, the course attempts to introduce students to the design and implementation of medical devices, implants, prosthetics, exercise equipment and other biomedical engineering devices. Practical exercises include, among others, the design of an electrocardiogram, a pacemaker, drug infusion systems, etc.

### **MME 541 Manufacturing Process Automation**

*(Prerequisites: Instructor's consent)*

In-depth study of the physical dynamics in the wider spectrum of manufacturing processes, assessing their potential for automation. Review of classical background in thermodynamics, fluids and mechanics together with dynamic systems and controls, in the context of analysis and design for automation of individual manufacturing processes. Modelling and control issues examined in comparative studies of metal cutting, forming, bulk deformation, joining, welding, casting, and sintering in processing of ceramic, semiconductor and composite material processing. Emphasis on new technologies such as rapid prototyping, microelectronics fabrication and nano-manufacturing, as well as on advanced, nonlinear, adaptive and multivariable control algorithms. Use of simulation (Matlab/Simulink) to assess and

optimize the performance of processing systems. Research directions are explored through taxonomy of manufacturing processes, suggesting redesign for automation. Students integrate and demonstrate control of a process experiment in the laboratory, such as part inspection station, automated bottle labelling robotic cell, thermal control of welding with infrared feedback, or automated assembly with machine vision. They also undertake the complete, real-world design of an automated plant such as a bakery.

### **MME 542 Introduction to Robotics**

*(Prerequisites: Instructor's consent)*

Broad review of theoretical and practical aspects of robotic manipulators and locomotion automata. Historical introduction to robotics through the arts and primitive technology, and anatomical and physiological analogies to the human body providing the context for principal concepts. Arm/leg configurations, statics, kinematics, dynamics, trajectory planning, control and navigation are examined together with hardware technology (end effectors, sensors, and machine vision), programming and applications. Current research directions in robotics are identified, as well as applications in modern industry, reinforced by illustrative videos. Emphasis on hands-on programming of a tabletop assembly robot with a vision system and walking robot prototypes in the laboratory. Robot demonstration projects in applications of the students' interest: building structures with block elements, navigating mazes and assembling puzzles, searching for parts with a variety of sensors, playing table games, checkers, pool and mini-golf against the robot, and graphically simulating the motion of an arm or mobile robot platform on the computer.

### **MME 553 Surface Engineering**

*(Prerequisites: Instructor's consent)*

Surface Engineering is an enabling technology encompassing surface treatment and thin film and coating deposition. Engineering a surface can substantially improve the wear and corrosion resistance of structural components to give enhanced component lifetime and material protection. The substrates involved may be metallic, ceramic or polymeric and the coating or treatment layers employed equally diverse. The processes involved in Surface Engineering range from traditional, well established techniques (e.g. painting, electroplating and galvanising), to more technologically demanding coating technologies and surface treatments (e.g. physical and chemical vapour deposition, ion implantation and laser treatment). Due to the recent innovations made in the processes involved in Surface Engineering, the mechanical/materials an engineer is faced with vary as there is a multitude of options when needing to select and specify a treatment to engineer the surface of a component or structure. This course will introduce and explore these options.

### **MME 554 Characterization Techniques of Bulk and Nano-Materials**

*(Prerequisites: Instructor's consent)*

The course is designed to develop an understanding of materials characterization techniques used in materials science and engineering. Diffraction techniques: X-ray, electron and neutron diffraction. Microscopic techniques: Optical, Electron, Atomic Force Microscopy. Spectroscopic techniques: Vibrational, Visible and Ultraviolet, Nuclear Magnetic Resonance, Electron Spin Resonance, X-ray, Electron spectroscopies. Other techniques: thermal, electrical, mechanical, magnetic characterization. The course includes demonstrations and/or lab experiments.

### **MME 555 Polymers in Medical Applications**

*(Prerequisites: Instructor's consent)*

Polymers – Introduction. Polysiloxanes in Biomedical Applications. Biodegradable Polymers. Polymers in Dental and Maxillofacial Applications. Medical Applications of Hydrogels. Polymers in Therapeutic Applications. Polymeric Nanofibers in Biomedical and Biotechnological Applications. Polymer-stabilized Superparamagnetic Iron Oxide Nanoparticles. Polymers in Artificial Joints. Blood Contacting Polymers. Polymer-carbon Nanotube Composites in Medical Applications.

### **MME 556 Fundamentals of Ceramics**

*(Prerequisites: Instructor's consent)*

Bonding in ceramics – Structure of ceramics – Effect of chemical forces and structure on physical properties – Thermodynamics and Kinetics – Defects in ceramics – Diffusion and electrical conductivity – Sintering and grain growth – Phase equilibria – Mechanical, thermal, dielectric and optical properties.

### **MME 557 Polymer Nanocomposites**

*(Prerequisites: Instructor's consent)*

Introduction to polymer nanostructured materials. Overview of different types of nanoparticles introduced within polymer matrices. Selecting the proper polymer-nanoparticle system for specific applications. Synthetic methods towards the fabrication of polymer-based nanocomposites. Characterization of polymer nanomaterials. Properties of polymer nanocomposites/polymer nanostructured materials. Current nanotechnology commercial applications and future directions.

### **MME 561 Lasers and their Applications**

*(Prerequisites: Instructor's consent)*

In science fiction movies during the 1950s, monsters were often portrayed that could emit lethal rays of light from their eyes, but until the invention of the laser such concentrated and powerful energy beams existed only in fantasy movies. Nowadays, it is possible to modify, probe or destroy matter using the highly focused radiation from energy sources known as lasers. Lasers are part of everyday tasks, such as reading grocery prices, measuring the size of a room, playing music on compact disks and printing or copying paper documents. Lasers also play a key role in modern production processes; they can contribute to improving products, conserving raw materials and opening up new opportunities. Laser welding is used by the automotive industry and lasers are used in computer chip manufacturing. They are used and developed just as successfully in other application areas such as medicine. This course is an introduction to lasers and their huge field of applications.

### **MME 562 Semiconductor Processing Technology**

*(Prerequisites: Instructor's consent)*

Semiconducting crystals – Crystals and crystallographic planes – Crystal of silicon – Wafer preparation – Compound semiconductors – Thermal oxidation and nitridation – Silicon dioxide and interface SiO<sub>2</sub>-Si – Growth of thin films – Chemical vapor deposition – Physicochemical processes of growth – Physical vapor deposition – Lithography – optical lithography – Techniques for improving resolution – Electron beam lithography – X-ray lithography – Ion beam lithography – Control of purity and etching – Purity processes – Etching – ion implantation – Fundamentals – Energy losses – Destruction of crystal and activity of dopants – Diffusion – Point defects – Fick's laws – Non-constant diffusion coefficient – Diffusion

in polycrystalline Si – Diffusion in insulators – Diffusion sources – Gettering in Si – Contact and interconnect technology – Contact metallization – Multimetal dielectrics – Metallic interconnects – Interlevel dielectrics – Multilevel metals – Reliability.

### **MME 563 Materials Physics**

*(Prerequisites: Instructor's consent)*

Atomic structure and chemical bonding – Crystal lattice and symmetry – Bonds and structure – Scattering experiments – Defects – Point, Linear and Planar – Thermal properties – Phonons – Heat capacity – Thermal expansion – Phonon thermal conductivity – Free electrons in solids – Jellium model – Fermi statistics – Specific heat in metals – Thermionic emission – Electronic bandstructure – Nearly free electron approximation – Tight binding approximation – Density of states – Magnetism – Paramagnetism – Diamagnetism – Ferromagnetism – Antiferromagnetism – Motion of electrons and transport phenomena – Effective mass – Electrical conductivity in metals – Thermoelectric phenomena – Wiedemann-Franz law – Superconductivity – Fundamental phenomena – BCS theory – Dielectric properties – Absorption of electromagnetic radiation – Ferroelectricity – Excitons – Semiconductors – Data for a number of important semiconductors – Intrinsic semiconductors – Contacts (p-n junction and metal-semiconductor Schottky contact) – Heterostructures and superlattices – Important semiconductor devices.

### **MME 564 Nanomechanics**

*(Prerequisites: Instructor's consent)*

The operating environment of nanostructures is completely different from that of their macroscale counterparts. For example, responses to thermal fluctuations, and for certain scales to quantum potentials, contribute to their positional uncertainty. This course aims to:

- (1) introduce students to nanotechnology and emphasize its great potential and applications by providing different examples.
- (2) provide the basic classical, statistical and quantum mechanics and thermodynamics required to characterize nano-mechanical devices.
- (3) explain the function of different equipment used in visualization of nano-devices. Students will be given the opportunity to have practical contact with an Atomic Force Microscope.

### **MME 565 Physical Principles, Design and Fabrication of MEMs**

*(Prerequisites: Instructor's consent)*

This course is intended to provide in-depth knowledge of micro-electro-mechanical systems (MEMs) by emphasizing the relevant physical principles, design and fabrication. A historical overview is given first, followed by a discussion of the relevant length scales, market analysis and motivation.

Simple MEMs devices are described e.g. switches, comb drives, pressure sensors with emphasis on the transduction principles (i.e. mechanical, electrostatic, thermal, piezoelectric) to offer in-depth understanding of device operation and issues pertaining to design and fabrication.

Detailed attention is then given to the fabrication of MEMs using standard integrated circuit (IC) processing technology.

In particular the various types of lithography, i.e. photolithography, electron beam lithography, soft lithography etc. are covered along with thin film deposition, wet and dry etching methods. Surface and bulk micromachining are also

explained together with hot embossing and micro-molding. Finally, issues pertaining to assembly, packaging and reliability are covered. Having developed an understanding of basics, IntelliSuite is introduced in the context of MEMs CAD with the aim of using it in the remainder of the course which is strongly focused on advanced MEMs. These include: RF MEMs, Piezo MEMs, MOEMs, MagMEMs, BioMEMs, Fuel Cell MEMs. Laboratory practice involves the design, analysis and simulation of MEMs devices using IntelliSuite and the fabrication of one MEMs device with the use of the clean room facility i.e. mask aligner, electron beam lithography, wet bench for chemical etching, sputtering, etc.

### **MME 566 Advanced Semiconductor Photovoltaic Devices**

*(Prerequisites: Instructor's consent)*

Introduction to Semiconductors, Si, Ge III-Vs etc. and Crystal Growth Methods such as MBE, CVD etc. Intrinsic, N-type and P-type; Basics of Carrier Transport, Hall Effect, Resistivity, Photoconductivity, The Infinite Quantum Well, Derivation of 3D DOS, Fermi Dirac Statistics, Expressions for Carrier Concentration and the Law of Mass Action. Temperature Dependence of Carrier Density and Mobility, Scattering Mechanisms. Energy Band Diagrams, Fermi Level, Temperature Dependence of Fermi Level. The P-n junction in Equilibrium, Under Forward and Reverse bias in the Dark and upon Illumination; The P-n junctions as Photovoltaic Device, Open Circuit Voltage, Short Circuit Current, Efficiency, Fill Factor, I-V Characteristic, Fabrication of P-n junction. Derivation of 2D DOS, The Finite Quantum Well, AlGaAs/GaAs Heterojunction, Modulation Doping. Derivation of 1D DOS, Quantum Wires and Nanowires, The VLS Growth Method, Si Nanowire P-n junctions, Axial and Core-shell, Nanowire Device Fabrication. Quantum Dots or Nanoparticles, 0D DOS, Bandgap Tuning, Applications in Quantum Dot Sensitized Solar Cells. Energy Downconversion.

### **MME 567 Materials for Energy Production, Storage and Conversion**

*(Prerequisites: Instructor's consent)*

This course deals with materials and technologies for Energy Production, Storage and Conversion, as well as sensors used for monitoring of pollutant emissions. Devices that will be considered include solar cells, fuel cells, batteries and electromechanical sensors. The main part of the course refers to thermodynamic, kinetic and electrochemical concepts, as well as material properties which are crucial/vital for the design of such devices.

### **MME 601-4 Graduate Seminar I-IV (ECTS vary)**

*(Course must be continued over multiple semesters)*

Obligatory participation of the students enrolled in the Ph.D. graduate program of the Department of Mechanical and Manufacturing Engineering in all graduate seminars organised by the Department for four semesters. Open to Ph.D. students only. During Seminars MME 601-MME 603 (1 ECTS each) students must conduct a seminar on a topic that could be related to their research interests.

In MME 604 (5 ECTS), besides the compulsory participation in all seminars during the fourth semester, students must submit a written report (no more than 20 pages) and an oral presentation on a topic relevant to those presented in the MME department. The topic chosen by the students need not be directly related to their research interests.

### **MME 605 Independent Study**

Graduate work on an independent academic project of the student's choice with consent of the advisor. May include theoretical, computational, experimental or combined work, relevant to a fundamental issue with applied and/or educational impacts. Includes preparation of comprehensive documentation and presentation of the study to the MME Department. Open to Ph.D. students only as an elective.

### **MME 611 Statistical Theory and Modelling of Turbulent Flow**

*(Prerequisites: Instructor's consent)*

Averaging and correlations, vorticity and vortex stretching, and the energy cascade. Reynolds stresses; introduction to transport equations. Length scales and spectra; "universal" scaling of small eddies. Introduction to computational methods; DNS, LES, RANS. Introduction to modelling methods; local equilibrium, stress-transport, eddy-viscosity and structure-based. Topics on complex flows; strongly rotated turbulence, magnetohydrodynamic turbulence; astrophysical turbulence.

### **MME 621 Advanced Engineering Controls**

*(Prerequisites: Instructor's consent)*

Comprehensive overview of advanced control algorithms and tools essential to mechanical engineering and manufacturing research: Formal energy-based modelling methods (linear and bond graphs), multivariable optimal control and observation, nonlinear systems and control algorithms, in-process parameter identification and adaptive control, time-varying systems and robust control, and distributed-parameter systems and controls. The course is based on case studies of theoretical methods with practical applications, and includes analysis by computer simulation and design projects applied to the students' own research.

### **MME 622 Non-Linear Dynamics**

*(Prerequisites: Simple undergraduate engineering mathematics; familiarity with Linear Ordinary Differential Equations and Linear Algebra)*

The course introduces the basic theory of non-linear dynamics and emphasizes its applicability to mechanical and biological systems. Topics studied include simple non-linear models, fixed points, their characterization, and stability. Dynamical system reduction: the centre manifold and normal forms. Bifurcation as a means to chaotic behaviour. Frequency response function of the Duffing oscillator and its use in modelling the non-linear vibrations of a buckled beam, memory recall and mood switches. Reconstruction of non-linear dynamics from experimental observations using delay coordinates.

### **MME 623 Advanced Multi-Body Dynamics**

*(Prerequisites: Intermediate dynamics and vibrations, English)*

This course will study the motion of rigid bodies in three-dimensional space. The kinematics and dynamics of rigid bodies will be examined. Modern analytical rigid body dynamics equation formulation and computational solution techniques applied to mechanical multibody systems. More specifically the following topics will be covered: kinematics of motion generalized coordinates and speeds, analytical and computational determination of inertia properties, generalized forces, Kane's equations, Hamilton's principle, Lagrange's equations, holonomic and nonholonomic constraints, constraint processing, and computational simulation.

### **MME 631 Non-Linear Acoustics**

*(Prerequisites: Instructor's consent)*

This course will introduce nonlinear acoustics, the study of intense sound waves for which linear acoustics is not applicable. Nonlinear acoustics is pertinent to many areas including biomedical ultrasound, underwater acoustics, noise control, and enhancement of industrial processes. The course covers: distortion and shock formation in finite amplitude waves; harmonic generation and spectral interactions; absorption and dispersion; radiation pressure; acoustic streaming; weak shock theory; numerical modelling; diffraction of intense sound beams; parametric arrays; bubble dynamics; nonlinear imaging techniques.

### **MME 701-704 Thesis Research I-IV (M.Sc.) (ECTS vary)**

Programme of graduate research leading to the defence and writing of M.Sc. Thesis. Open to M.Sc. students only.

### **MME 800 Comprehensive Examination**

(See paragraph on Comprehensive Examination)

### **MME 801-804 + 820-829 Thesis Research I-VIII (Ph.D.) (ECTS vary)**

Programme of graduate research leading to the defence and writing of Ph.D. Thesis. Open to Ph.D. students only.

### **MME 809-816 Thesis Writing I-VIII (Ph.D.) (ECTS vary)**

## **Research Interests of the Academic Staff**

#### **• Andreas Alexandrou, Professor**

His research interests and contributions are in basic fluid flows with applications in the environment, processing of materials, and in wake flows.

#### **• Michalis A. Averkiou, Associate Professor**

His research interests are in the area of diagnostic ultrasound imaging, therapeutic applications of ultrasound, drug-targeted delivery, ultrasound-mediated gene transfection, and sonothrombolysis. He is particularly interested in microbubble ultrasound contrast agents and their applications including imaging and quantification of the perfusion bed of various organs and cancers.

#### **• Ioannis Giapintzakis, Professor**

His research interests lie in the area of experimental materials science and technology: thermoelectric oxides, low-dimensional quantum magnets with high thermal conductivity, half-metallic ferromagnets, spintronic devices, giant magnetoresistive oxides, magnetic properties of carbon-based nanostructures, and high-temperature superconductors.

#### **• Dimokratis Grigoriadis, Assistant Professor**

His research interests include environmental fluid dynamics, incompressible turbulent flows in classical hydrodynamics and magnetohydrodynamics (MHD), oscillating and pulsating turbulent flows, multiphase flows and atmospheric dispersion, flows in coastal regions. His current research interests focus on basic heat and mass transport phenomena using advanced and efficient numerical techniques such as the immersed boundary method for Large Eddy Simulations (LES) and Direct Numerical Simulations (DNS).

• **Stavros Kassinos, Associate Professor**

His research interests include modelling and simulation of complex turbulent flows, modelling and simulation of magnetohydrodynamic and magnetogasdynamic flows, biomedical flows, computational methods for multiscale phenomena as they apply to nanotechnology issues, thermodynamics, and renewable energy sources.

• **Theodora Krasia-Christoforou, Associate Professor**

Her research interests are focused on the areas of polymer synthesis, characterization and applications of synthetic polymeric materials. She is particularly interested in novel polymers of different architectures and chemical compositions comprising various functionalities capable of responding to external stimuli (such as temperature or pH changes), binding onto inorganic matter (catalytic and optoelectronic applications), adsorbing and releasing solutes (drug-release systems), binding onto biological molecules, etc. She is also interested in the preparation of polymeric systems with the ability for microphase separation, leading to the formation of well-organised nanomorphologies in solution and in the solid state.

• **Andreas Kyprianou, Associate Professor**

His research interests include non-linear systems, dynamic modifications and robustness, modern signal processing techniques, statistical mechanics and their application to nanomechanics.

• **Theodora Kyratsi, Associate Professor**

Her teaching interests include Material Science and Engineering, Material Characterization Techniques, Advanced Materials in Engineering, Materials for Energy Generation and Storage. Her research interests lie in the areas of material science (material optimization, doping techniques and solid solutions, annealing, sintering, intercalation), material characterization, X-ray techniques, thermal analysis, charge-transport - Thermal - Optical properties, thermoelectric materials for cooling applications and power generation.

• **Loucas S. Louca, Associate Professor**

His research interests lie in the areas of system dynamics and control, bond graph theory, physical system modelling and model reduction of large-scale systems, modelling of automotive systems, multi-body dynamics, computer aided modelling and simulation. He is particularly interested in automating the process of generating efficient dynamic models for use in the system and control design process. He is the author of CAMBAS (Computer Aided Model Building Automation System), an automated modelling software that enables the rapid development of efficient models for linear systems and its use in teaching courses in modelling of dynamic systems.

• **Claus G. Rebholz, Associate Professor**

His research interests and contributions are in the area of Materials and Surface Engineering, especially in the development and characterization of nano-composite/-structured hard and wear-resistant thin films, produced by various vacuum coating and surface modification techniques.

• **Triantafyllos Stylianopoulos, Assistant Professor**

His research interests involve the use of computational mechanics for the study of the mechanical behavior of solid tumors as well as for the optimal delivery of nanoparticles in the diagnosis and treatment of cancer.

• **Matthew Zervos, Associate Professor**

His research interests include semiconductor device fabrication, characterization and modelling with particular emphasis on photovoltaic solar cells which are based on III-V semiconductors like GaAs, InP, GaN, etc., but also Si. In addition he is interested in nanotechnology and especially nanowires and nanodots, their fundamental properties and aspects of their integration into functional devices via bottom-up methods for a diverse range of applications (e.g., nanosensors). Finally, his interests include fabrication of micro-electro mechanical systems (MEMs) for biological applications.

### Contact Details

**Graduate Programme Coordinator**

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**Graduate Programme Committee**

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# Graduate School

Postgraduate Prospectus 2017-2019

# Graduate School



*The Graduate School was formally established in January 2012, when the Department and Postgraduate Student Representatives were appointed to the School Board, and the Dean and the Vice-Dean of the Graduate School were elected.*

*The Graduate School differs from other Faculties of the University in the fact that it does not comprise departments, but it comprises the graduate programmes of the departments instead. As such, the Graduate School does not have its own Academic Staff, but Administrative Staff only, that provides support for the development, evaluation and promotion of graduate education throughout the University, without intervening in the academic work of the departments.*

## Objectives of the School

The objectives of the Graduate School are the following:

- To adopt quality assurance and measures for the evaluation of postgraduate studies in order to improve the education provided by the University of Cyprus.
- To encourage interdepartmental and interdisciplinary programmes of study, including doctoral programmes and further synergies among the departments.
- To encourage the departments to centrally organise common equipment and other research and study tools.
- To assist the departments in obtaining external financial support for postgraduate studies and research by pursuing external funding through local and international collaborations, advance learning, and by supporting a culture of inquiry that is disseminated globally as new knowledge.
- To encourage the development of programmes of study in international languages other than Greek and Turkish.
- To provide financial support to postgraduate students through scholarships and grants in exchange for research or teaching.

## Contact Details

Graduate School

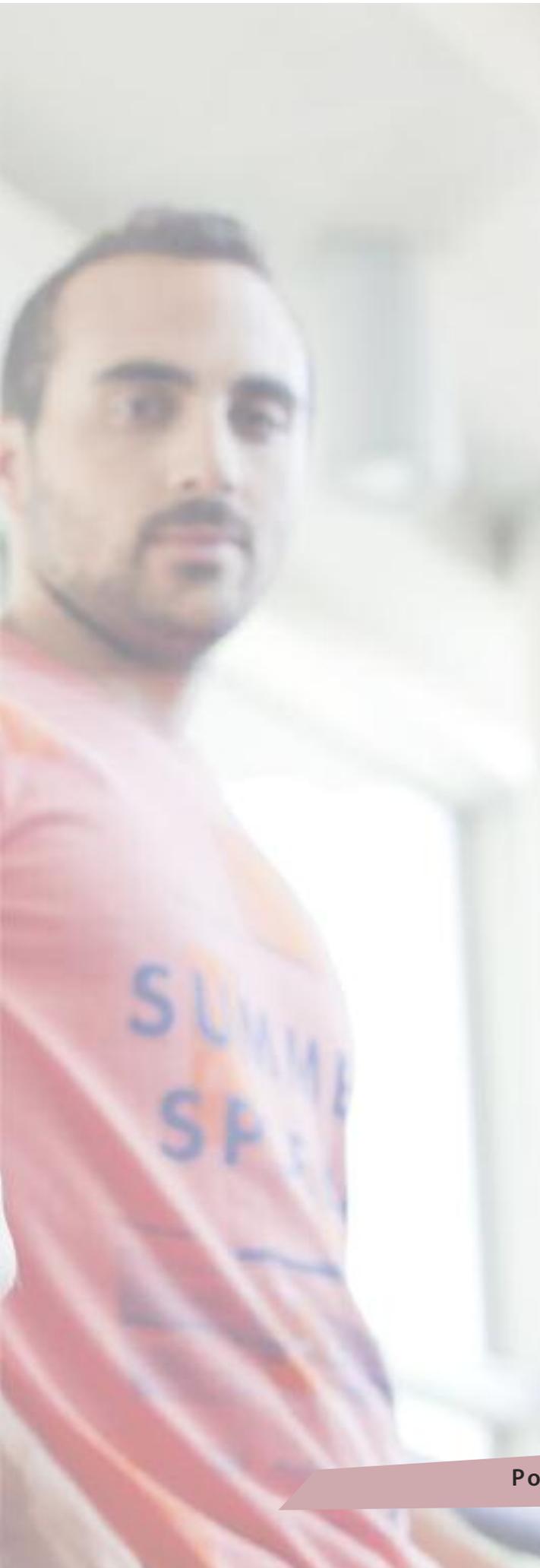
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# Faculty of Humanities

## DEPARTMENTS

English Studies

French and European Studies

Turkish and Middle Eastern Studies

Postgraduate Prospectus 2017-2019

# Department of English Studies



*The Department of English Studies is dedicated to the promotion of research and knowledge in the areas of English language and culture. It offers an undergraduate degree in English with concentrations in Linguistics, Literature and Translation Studies.*

*The Department also offers the following Master degrees:*

- *English Literature and Comparative Cultural Studies*
- *Teaching English as a Foreign Language*
- *Theoretical and Applied Linguistics*

*The Department offers Ph.D. programmes in subjects related to all research areas of its academic faculty.*

## **Research in the Department**

The Department is involved in research into anglophone and comparative literature, translation, linguistics and cultural studies. More specifically, research activities of faculty members in the area of literature include theatre studies (especially comparative European theatre and melodrama), critical and cultural theory, early modern literature, Romanticism, 18th and 19th century prose, postcolonial and postmodern literature, continental philosophy, psychoanalysis, feminist and American studies and literary translation in a comparative literature context. Faculty members in the area of linguistics undertake various research projects in theoretical and applied linguistics, including theoretical syntax, comparative syntax, the syntax-semantics and syntax-morphology interfaces, language contact between English and Greek in the sociolinguistic frame of Cyprus (diglossia, lexical borrowing, etc.), as well as the teaching of English in primary schools and the development of language tests and their educational and social impact. Faculty members in the area of translation studies undertake research in literary translation (including drama), intercultural studies, cultural translation, translation theory, translation methodology, translation didactics, text linguistics, and interpreting studies.

Faculty members participate in the Cyprus Society for the Study of English (CYSSE), while faculty members in linguistics and translation studies are also responsible for the recent foundation of the Cyprus Linguistics Society (CyLing).

## **Research Collaborations**

The Department, in collaboration with other universities in Cyprus and/or abroad, is also involved in the following research programmes:

- a) COST Action IS1208 on aphasia research trialling, "CATs" (ESF 2013-17)
- b) Erasmus+ "Promoting authentic language acquisition in multilingual contexts", Cooperation for innovation and the exchange of good practices, Strategic Partnerships for school education (EU-Lifelong Learning Programmes 2015-1-AT01-KA201-005060, 2015-18)

- c) Erasmus+ "Teachers' Assessment Literacy Enhancement (TALE)", Cooperation for innovation and the exchange of good practices, Strategic partnerships for school education (EU-Lifelong Learning Programmes 2015-1-CY01-KA201-011863, 2015–18)
- d) Internal research project entitled "The categorial status of adjectives: from theory to typology, and back again" (UCY, 2017-19)

## Postgraduate Studies

The Department of English Studies offers postgraduate programmes at M.A. and Ph.D. levels. The course of study for the M.A. in TEFL and the M.A. in TAAL is four semesters (three semesters of coursework, followed by one semester for writing the M.A. dissertation), while the programme of the M.A. in English Literature and Comparative Cultural Studies covers two semesters of coursework and the writing of an M.A. dissertation during the summer months.

Students are allowed up to eight semesters to complete the degree, if necessary. Doctoral candidates must complete at least six and no more than sixteen semesters of study.

In the spring semester of each academic year, the university announces which postgraduate programmes will be offered in the following year. The announcement can be found at: [www.ucy.ac.cy/goto/acafsw/en-US/NewEventsAnnouncements2.aspx](http://www.ucy.ac.cy/goto/acafsw/en-US/NewEventsAnnouncements2.aspx)

## Admission Requirements

- (a) Postgraduate programmes at Master's level: All applicants for entrance in the M.A. programmes offered by the Department must hold a first class or upper second class degree (or equivalent) in a subject related to their proposed field of study. All candidates must be competent and fluent in English and, depending on the nature of the programme, in other relevant languages. Although candidates need not have completed their degree at the time of application, they must have received it before they commence the postgraduate programmes.
- (b) Postgraduate programmes at Ph.D. level: Generally, applicants must hold a Master's degree (or equivalent), awarded by a recognized university, in a subject related to their proposed field of study; alternatively, they must show evidence of their ability to conduct research in the humanities.

## Application and Selection Procedures

For more information on application requirements and selection procedures, please refer to *Admission and Attendance Regulations – Application Procedures* or please consult the Graduate School (tel.: 22894021/44). See also

the relevant link: [www.ucy.ac.cy/goto/acafsw/enUS/PostgraduateOffice.aspx](http://www.ucy.ac.cy/goto/acafsw/enUS/PostgraduateOffice.aspx)

## M.A. IN ENGLISH LITERATURE AND COMPARATIVE CULTURAL STUDIES

### Philosophy

The Master Programme in English Literature and Comparative Cultural Studies is designed for students who wish to undertake research in literature, with particular emphasis on theoretical, cross-cultural, comparative and interdisciplinary perspectives. Students may explore cross-cultural dimensions within English Studies, or Anglophone literature in relation to literatures in other languages. Intergeneric approaches to literature are also encouraged. Courses examine recent developments in theoretical tendencies and cultural analysis primarily in relation to literary texts but also with respect to the other arts, drawing from disciplines such as psychology, anthropology, sociology, history and philosophy.

Graduates of the programme will be able to demonstrate:

- advanced knowledge and understanding of a broad spectrum of critical and methodological approaches to texts, and the ability to develop complex interpretations of literary and related texts, often in interdisciplinary contexts;
- knowledge of a broad social, cultural, and historical framework of the development of relevant literature(s);
- knowledge of a broad range of core literary and related texts relevant to the field of study, and of their interpretations;
- ability to communicate ideas in accordance with professional standards and conventions of academic writing, with a view to contributing to the development of knowledge;
- ability to demonstrate autonomy and responsibility in the delivery of work in a manner transferable to a range of professional contexts;
- ability to think and articulate ideas creatively.

(Objectives adopted from SQF HUMART.

[www.unideusto.org/tuningeu/sqf-humanities-and-arts.html](http://www.unideusto.org/tuningeu/sqf-humanities-and-arts.html))

### Programme Structure

The M.A. in English and Comparative Cultural Studies offers a variety of courses within a set of four broader rubrics that represent the philosophy and objectives of the programme. The programme covers two semesters of study. Students are required to register for three courses of 10 ECTS in each semester of study. Before the end of the second semester of study students develop

and submit their thesis proposal under the guidance of an assigned supervisor and are expected to complete their thesis during the summer. Individual course offerings will be drawn from the following four rubrics, and may vary from one cycle of the M.A. to another.

**I. Issues in (Early) Modernity and Postmodernity**

- ENG 707 The Problem of Subjectivity in Postmodern Theory and Literature
- ENG 716 The Sublime
- ENG 718 Space and Cultural Mobility in Postmodern Theory and Literature
- ENG 719 Space & Cultural Production

**II. Narrative, History and Ideology**

- ENG 711 Literature, Society and Revolution in the Early Modern Period
- ENG 713 Gender, Sexuality and Subjectivity in Early Modern Literature and Culture
- ENG 714 Literature and the Art of Living
- ENG 721 Nation and Narrative

**III. Discourse, Politics and Society**

- ENG 705 The Animal in Literature and Philosophy
- ENG 709 Imagined Worlds: The Nineteenth Century
- ENG 712 Friendship in Philosophy & Literature
- ENG 720 Seminar in Contemporary Feminist Theory: Debates on Aesthetics, Ethics and Politics

**IV. Comparative Studies & World Literature**

- ENG 700 Aesthetics and Literature: from Romanticism to Postmodernism
- ENG 710 Comparative Studies in World Literature and Culture
- ENG 717 Translation in World Literature & Culture

**M.A. IN TEACHING ENGLISH AS A FOREIGN LANGUAGE (TEFL)**

The programme is primarily designed for those interested in TEFL as an academic field and has the following main objectives:

- to offer students a solid foundation and deepen their knowledge in the main areas of TEFL, from both a theoretical and a practical point of view;
- to acquaint students with new areas in the field (such as computer-assisted language learning, alternative assessment, English as a lingua franca);
- to engage students in research in the field of TEFL and consequently encourage them to further their studies.

The programme is divided into two components: the taught component covers the main areas of TEFL and familiarizes students with research methodology; the thesis component gives students the opportunity to undertake research in a specialized area of interest.

**Indicative List of Courses**

- ENG 741 Trends in Applied Linguistics
- ENG 751 Language Teaching and Learning
- ENG 753 Language Testing and Evaluation
- ENG 754 Materials Development and Course Design
- ENG 755 Spoken Language Pedagogy
- ENG 756 Technology-Assisted Language Learning

**M.A. IN THEORETICAL AND APPLIED LINGUISTICS (TAAL)**

The programme is primarily designed for those interested in the scientific investigation of language and has the following main objectives:

- to offer students a solid foundation and deepen their knowledge in the main areas of English grammar and the structure of language;
- to acquaint students with different areas in the field (such as syntax, semantics, phonology, applied linguistics, etc.);
- to provide guidelines for students conducting research in the field of linguistics, and consequently encourage them to further their studies.

The programme is divided into two components: the taught component covers the main areas of linguistics and familiarizes students with research methodology; the thesis component gives students the opportunity to undertake research in a specialized area of interest.

**Indicative List of Courses**

- ENG 741 Trends in Applied Linguistics
- ENG 743 Principles of Linguistic Analysis I
- ENG 748 Principles of Linguistic Analysis II
- ENG 749 First and Second Language Acquisition
- ENG 750 Topics in Linguistics

**Research Interests of the Academic Staff**

• **Stella Achilleos, Assistant Professor**

Her research interests concentrate on the literature and the social and cultural History of the early modern period. Her research focuses particularly on the discourses and practices of friendship in early modern literature and culture; literature, community and sociability (with emphasis mainly on the seventeenth-century poetry and sociability); literature and utopia; early modern political theory (emphasizing especially on theories of sovereignty); and the literature of the English Revolution.

• **Antonis Balasopoulos, Associate Professor**

The literary construction of racial, national and imperial identities (with emphasis on the American novel of the 18th and 19th centuries), the cultural production of space (with a special emphasis on the production of utopian spaces in literary, political and architectural discourse), the politics of

representation in the visual arts, and critical theory (especially materialist theories of cultural production, genre theory and post-colonial theory).

• **Georgios Floros, Associate Professor**

His research interests focus on theoretical and methodological aspects of translation and interpreting, text linguistics and discourse analysis. Specifically, his main research areas include culture and translation, translation process and methodology, translation didactics, interpreting methodology and didactic aspects of interpreting. With regards to text linguistic perspective, he is interested in textual structure, cohesion and coherence as well as in the importance of these features for translation and interpreting.

• **Kleanthes K. Grohmann, Professor**

His research interests lie in the field of biolinguistics, in particular theoretical syntax, morphology, semantics, and language acquisition. He is concerned with syntactic theory (in particular the Minimalist Program and the Principles and Parameters Theory), synchronic and diachronic study of grammar (especially history of English), and theoretical concerns in psycho- and neurolinguistics (incl. L1 and L2 acquisition as well as language disorders). The language families he is currently most interested in are Germanic, Greek, Romance, and Slavic.

• **Maria Margaroni, Associate Professor**

History and theory of literary criticism, feminist philosophy, contemporary English literature (with an emphasis on fiction and drama). In particular, she is interested in issues arising in the context of post-structuralist literary theory and post-war continental philosophy. In the area of feminist studies, her interests focus on post-structuralist and psychoanalytic theories (with an emphasis on the work of Julia Kristeva, Luce Irigaray, Judith Butler, Hélène Cixous) and post-war British women writers (such as Angela Carter and Jeanette Winterson, among others). Secondary interests in the following areas: modern and postmodern drama, cinema, working-class literature.

• **Anastasia Nikolopoulou, Associate Professor**

History and theory of European and American theatre, gothic and romantic literature, melodrama, the Victorian novel, philosophical hermeneutics, popular culture.

• **E. Phoevos Panagiotidis, Associate Professor**

His research interests comprise general linguistics, language typology and change, morphology, syntax and their acquisition. More precisely, his research concentrates on the syntax and acquisition of nominal phrases and syntactic edges and on issues of grammatical category from a syntactic, morphological and semantic point of view.

• **Stephanos Stephanides, Professor**

His main research interests are in comparative studies in world literature with a special interest in the colonial and post-colonial Literature of India, the Caribbean and Latin America, poetry and poetics, the interface of anthropology and literature, translation and intercultural studies, literary translation.

• **Dina Tsagari, Assistant Professor**

Foreign and second language teaching and learning: Language course design and materials (development and evaluation of EFL courses and curricula, EFL materials design, evaluation and impact, linking of EFL textbooks and curricula to the CEFR); Language testing (impact/washback, development/validation, ethics, policies and practices in testing of young learners, computer-based tests, linking of tests to the CEFR); Language assessment (teacher assessment literacy, alternative methods of assessment such as self-assessment, peer-assessment, portfolio assessment, etc); Teacher evaluation; Adult and distance learning education in HE.

• **Evy Varsamopoulou, Associate Professor**

English and European Romanticism, aesthetics, the artist novel (Künstlerroman), the sublime (18th to 20th century), comparative literature, the ancient Greek novel, history and theory of the novel, autobiography, literary theory, anti-colonial theory, cultural theory, philosophical approaches to literature and film-particularly, ethics, phenomenology, existentialism, political philosophy, Kantian and post-Kantian aesthetics, psychoanalysis, time and narrative, subjectivity and gender, community and identity.

• **Vasso Yannakopoulou, Lecturer**

Her research interests lie in literary translation, style in translation, translation sociology, with a particular interest in the application of Bourdieusian sociology in Translation Studies, the reception of canonical texts through translation, and especially the reception of Shakespeare's works in Greek; translation history, both as theory and as a practice, theatre translation for the page and the stage, the relation between translation and adaptation, and intersemiotic translation with a special focus on comics.

**Contact Details**

**Department Secretariat**

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# Department of French and European Studies



*The Department of French and European Studies offers two Postgraduate Master Degrees:*

- a) Master in Teaching French as a Foreign Language and*
- b) Master in European Studies*

*It also offers two Postgraduate Programmes at a Ph.D. level in:*

- a) French Studies and*
- b) European Studies*

## **MASTER DEGREE IN TEACHING FRENCH AS A FOREIGN LANGUAGE**

The Master Programme in Teaching French as a Foreign Language is designed to give students academic knowledge (for example: a theoretical framework, awareness of modern methodologies), professional skills (for example: practise teaching, gaining experience in teaching in schools ), and familiarity with educational administration. More specifically, the programme provides students with the theoretical background required to analyse teaching situations as well as the practical tools they will need in their professional careers.

The Master Degree in Teaching French as a Foreign Language is suitable for teachers who are currently working in the public or private sector in Cyprus and who are seeking for further specialization on their subject, as well as for future teachers or those who wish to specialize in the French language for other professional reasons. It is also addressed to holders of an undergraduate degree (usually, but not necessarily, in the French language or Linguistics) awarded by the University of Cyprus or by any other accredited University seeking for specialization in teaching French as a Foreign Language in combination with educational leadership and administration skills. In terms of academics, the programme will educate its students in accordance with the latest requirements of Teaching French as a Foreign Language and according to the current needs of the labor market of Cyprus and abroad. In terms of research, the programme aims to prepare graduates to undertake high- level academic research in this field.

In addition to preparing its graduates for employment as teachers of French as a Foreign Language, the programme also qualifies its graduates for many other professional opportunities such as becoming Foreign Language Inspectors, Directors of Francophone and Foreign Private Schools, Directors of Language Centres and Private Institutes, Instructors of Pedagogical Institutes, Inspectors of French as a Foreign Language, future Francophone Cultural Attaché, writers of Francophone manuals, Consultants or Specialists in the francophone world, Consultants or Experts in Multilingualism, Expert Advisors to NGOs active in the francophone world (Asia, Africa, etc.), Consultants and

Officers of Francophone Programmes, Consultants and Officers in Linguistic Programming and Policy, Consultants and Practitioners in the field of Language Services, Francophone Curricula Designers, Translators/ Interpreters.

### Terms of Admission

Criteria for admission to the programme include: a) a first degree in any of the areas of Social Sciences or the Humanities, with an overall average of 7/10, an equivalent grade and/or proven research abilities, and/or teaching experience; b) good knowledge of the French language (indicative level B2); c) basic knowledge of another international language, sufficient for passive comprehension of literature relevant to the programme. The Departmental Postgraduate Committee reserves the right to require any selected candidates it deems necessary to take courses outside the programme of studies that might be missing from their academic background but are considered vital (e.g., a French language course, Research Methodology, etc.). The credit for these courses will not affect the total number of ECTS of the postgraduate programme since the grade will be in the form Pass/Fail and therefore, will not contribute to the assessment level of the students.

### Application

The application should be submitted electronically and must include: a) a letter of interest with a statement of research and/or professional goals and interests of the candidate (500 words), in French; b) a Curriculum vitae, in French; c) a copy of the undergraduate degree accompanied by the Diploma Supplement (DS) or the official transcript; d) a writing sample, such as teaching material, a brief article, an excerpt of academic work, etc. (optional); e) two letters of recommendation to be directly submitted by the referees via the electronic application system of the University.

Applications will be examined by the Departmental Postgraduate Committee. If the Committee deems it necessary, the selected candidates will/might be invited for a personal interview or an interview via videoconference. The Committee's list of selected candidates will be submitted for a final approval to the Board of the Department of French and European Studies.

### Postgraduate Scholarships

There is a limited number of scholarships available, and these are not available every year. Upon acceptance into the programme, all students are eligible to apply. The deadline for submission of applications and the selection criteria will be announced on the Department's website.

### Programme Duration

The Programme extends over three semesters during which the physical presence of the students at the University is required. However, students can spend the maximum permitted time by the regulation of the University of Cyprus in institutions abroad through the ERASMUS+ Programme. The possibility of a joint Master dissertation supervision as a part of the exchange and cooperation programmes between the University of Cyprus and Departments, Laboratories or Research Institutes abroad, is viewed positively.

### Programme Structure

The programme extends over three semesters and requires successful completion of a minimum of 90 ECTS. It concludes in the awarding of the title of Magister Artium. The programme of study per semester is distributed as follows:

		ECTS
<b>First Semester</b>		
FES 730	Methodologies in Teaching French as a Foreign Language	10
FES 731-738	Course from the indicative list of the Department of French and European Studies	10
EDU or PSY	Course from the indicative list of the Department of Education or the Department of Psychology	-
<b>Total</b>		<b>30</b>
<b>Second Semester</b>		
FES 731-738	Course from the indicative list of the Department of French and European Studies	10
FES 731-738	Course from the indicative list of the Department of French and European Studies	10
EDU or PSY	Course from the indicative list of the Department of Education or the Department of Psychology	-
<b>Total</b>		<b>30</b>
<b>Third Semester</b>		
FES 746	Thesis <i>or</i>	
FES 747	Internship	30
<b>Grand Total</b>		<b>90</b>

The Department of French and European Studies will select the courses offered each semester apart from the compulsory FES 730, Methodologies in Teaching French as a Foreign Language. (See below the indicative list of courses offered by the Department of French and European Studies.)

The courses in the Department of Education are credited with 12 ECTS. The courses in the Department of Psychology are credited with 7.5 ECTS. Students who select courses from the Department of Psychology may

fulfil the remaining credit requirements with the Research Methodology course offered by the Department of French and European Studies and/or by seminars offered by the collaborating Departments.

**Conferences, workshops and lectures** organized by the collaborating departments on topics related to the curriculum are an important complement to the programme. Students may be required to submit written reports associated with these activities.

**Thesis (30 ECTS):** the Master's dissertation is prepared under the supervision of a faculty member of the Department of French and European Studies, or under the co-supervision of a faculty member of the Department of French and European Studies and a faculty member from one of the collaborating departments (EDU or PSY), after consultation with the student's primary supervisor. The thesis must be original and approximately 12,000-15,000 words long. Students must choose their supervisor and a thesis topic before the end of the second semester of their studies. At the end of the third semester, the thesis is examined and evaluated by a Supervising Committee consisting of the supervisor and one other faculty member. The thesis must be submitted to the Department by the date specified.

**Internships** can be undertaken by students who wish to gain professional experience along with theoretical training. The internship's venue, which must be relevant to the Master's programme, is either proposed by the Supervisor, or suggested by the student. The internship programme (approx. 300 hours in total) is approved and defined by the supervising Professor and the Manager of the Institution where the internship is going to take place. If an Internship Agreement is drafted, it has to be signed by both of them and the graduate student. The internship is considered to be completed with the submission of a comprehensive written report of approximately 8,000-10,000 words describing the student's activities.

In exceptional circumstances, and after approval by the Departmental Graduate Studies Committee, students may substitute one course from the Master's curriculum with another course offered in another postgraduate programme at the University of Cyprus provided it is related to the subject of their thesis and carries an equivalent number of credits.

### Working languages

The courses are taught mainly in French except for those offered by the Department of Education and the Department of Psychology, which courses are taught in Greek. The bibliography for the seminars will be the same as the language in which they are offered. The subject of

the thesis must be relevant to Teaching French as a Foreign Language and it can be written in French or Greek.

### Scholarships

Upon acceptance into the programme, students are eligible to apply for a limited number of scholarships, provided that scholarships are available that year. The deadline for submission of applications and the selection criteria will be announced on the Department's website.

### Course Descriptions (indicative list)

#### FES 730 Methodologies in Teaching French as a Foreign Language

Through an interdisciplinary approach that requires students' critical thinking, the course outlines the principles governing the design of the teaching and learning process. It defines the current theoretical framework of the discipline of Teaching

French as a Foreign Language and Culture and outlines the fundamentals of designing and planning a course curriculum. The course discusses the basic principles of differentiated pedagogy, which aims to create incentives and thus to improve the teaching and learning practice. More specifically, the course suggests ways of developing methodological skills, including: identification and selection of teaching and learning objectives, selection and adaptation of learning material, development of teaching material through lesson plans, the use of interactive whiteboards, lesson planning and classroom management. It also seeks to familiarize students with current issues in the domain of teaching French as a Foreign Language for example, how to teach speaking and writing skills, literary texts and grammar through the four skills of the Common European Framework of Reference for Languages. Finally, the course examines the methodologies of design and realization of curricula (goals, needs, capabilities, performance, teaching materials, course implementation, evaluation practices within the policy and methods of teaching French as a Foreign Language.

#### FES 731 Information and Communication Technology in Teaching French as a Foreign Language

The course will familiarize students with methods of teaching French as a Foreign Language using information technologies and communication technologies. The use of new technologies as teaching tools will enrich the teacher's educational approaches and practices and enhance the student's learning horizons. The first part of the course examines the use of computer technology in teaching languages and in digital learning environments (for instance, Computing Applications with Multimedia, Hypermedia and Internet). The second part studies Computer-mediated Communication (English: CMC, French: CMO), Distance Learning (synchronous and asynchronous education), Hybrid Education and Tele-teaching.

#### FES 732 Acquisition of Language Skills in Oral and Written Communication of French as a Foreign Language

The course will present the theories of learning and particularly the theoretical principles underlying speaking and writing competency in the acquisition of French as a Foreign Language. In this context, we consider the use of various methodologies in teaching a language in its spoken and written form; important

among these are the Communicative Approach, the Application of Text Linguistics to Teaching / Learning Foreign Languages, the Use of Comprehension Activities as well as written activities. The course also looks at ways of coping with learning difficulties in the production of spoken and written language (blocking, emotion, anxiety, self-esteem, motivation, formative self-assessment).

### **FES 733 Sociolinguistics and Teaching French as a Foreign Language**

The course analyzes the relationship between teaching and learning the French language within a wide range of contexts including social, political, cultural, psychological and interpersonal frameworks. More specifically, the course aims to familiarize and sensitize students with issues which are part of the broad interplay of language and society, namely in the field of Sociolinguistics. The focus will be on becoming aware of issues that deal with Language Diversity, language change, language contact and Language Policies as well as the influence of the principles and conclusions of Modern Sociolinguistics regarding the educational practice.

### **FES 734 Teaching the Grammar of French as a Foreign Language**

The course examines modern ways of teaching grammar. The way to teach grammatical structures and the rules of the French language is, especially at novice levels, inductive and starts with examples taken from texts (i.e., it is contextualized, as required by modern, communication-oriented language teaching). Grammar is not an independent discipline but it is a part of the language course as one of the components that make communication possible (for example, vocabulary, production and understanding of spoken language, etc.). Grammar is presented as a structure that functions as a means of effecting communication, as well as a means of stylistic differentiation, of textual cohesion and a mechanism of textual modulation.

### **FES 735 Teaching with Francophone Literary Texts**

In this course literature is viewed as a means of acquiring cognitive tools that can enhance the learning of the French language. The aim of this course is to enable students to use a francophone literary text in the context of communication and action. More specifically, through contemporary and classic French-language literary texts we approach the French language and grammar, idiomatic expressions and specific structures and their function in linguistic and textual environments. Finally and through a literary perspective, data offers answers to the following questions: How can one include the literary discourse in the process of building the communicative competence? How can one articulate literature and linguistic, socio-cultural as well as pragmatic skills with discourse skills? How can reading skills be developed through literacy texts?

### **FES 736 Strategies for Learning the French language: Analysis and Evaluation of Errors**

The course will help students analyze mistakes that learners make when studying French as a Foreign Language. More specifically, it focuses on identifying, recording and interpreting frequent errors that appear in the writing of Greek-speakers who are learning French. The teacher who knows the language elements with a high frequency of error knows what to focus on. The study and analysis of errors can also help teachers understand the cognitive and linguistic processes involved in learning the language. Finally, students will consider the importance of analyzing errors from a communication perspective: What is evaluation? What is to be evaluated? When? How and why?

### **FES 738 The Action-oriented Approach in Teaching French as a Foreign Language**

The course presents a new technique of learning French as a Foreign Language, which mainly focuses on the role of experience in the process of learning. Through the action-oriented approach, the teacher stimulates the student, coordinates and monitors the learning process while he emphasizes on the importance of active involvement in language learning. This method also reinforces the relevance between the classroom, the daily lives of the students and the reality of the Francophone society. Students participate in a variety of activities such as research, observation, interviews, simulations, creative compositions, etc. Within this framework, the course seeks to enhance communication and cooperation between the learner and the teacher in order to develop knowledge in francophone environments.

### **FES 762 The Discourse of Culture in Europe, from Plato to Popper**

Plato's '*Politeia*' (Republic) is a challenging text concerning upbringing and education (*paideia*), and one that has greatly influenced the European mentality/way of thinking throughout the ages. In his quest for justice, Plato proposed the tripartite distinction of the human soul (*logikon*-the logical, *thymoeides*-the high-spirited and *epithymitikon*-the appetitive) as well as the theory of the four virtues (wisdom, courage, reason and justice). Furthermore, he believed that Pedagogy ought to include Philosophy, the Sciences and the Fine Arts. Europe's later on pedagogues developed their own theories based on these Platonic preconditions. For example, the pedagogical texts of Castiglione, More, Rousseau, Schiller and Karl Popper among others, all include Plato's positions, either directly or indirectly, in their research. This theoretical perspective, which contains elements taken from Anthropology, Psychology, Theory of the State and the Philosophy of History, broadens the concept of Pedagogy.

### **FES 746 Internship**

Students are required to experience hands-on teaching through their attendance and involvement in one of the following: a public or private school, a Language Centre or the French Institute (Alliance Française). In this way students will become familiar with the school /classroom environment, school life, and the demands of everyday educational practice.

### **FES 747 Thesis**

The thesis is the student's individual project. The subject of the thesis is to be discussed with and approved by the student's Advisor.

## **Indicative List of Courses of the Department of Education**

(See Descriptions in the Department of Education)

- EDU 603 Comparative Education
- EDU 610 Evaluation of Educational Programmes
- EDU 617 Management in Education and Change Management
- EDU 620 Introductions to Educational Administration
- EDU 621 Exploitation and Development of Human Resources
- EDU 622 School Organization and Administration
- EDU 623 Observation and Evaluation of Teaching and Educational Personnel
- EDU 624 Planning and Decision Making in Education

EDU 625 The Application of New Technologies in Educational Administration  
 EDU 627 Introduction of Innovations in Education  
 EDU 628 Political Aspects of Education  
 EDU 629 Pedagogical Leadership  
 EDU 630 Financial Aspects of Education  
 EDU 631 Effectiveness and School Improvement  
 EDU 649 Educational Management in Europe  
 EDU 642 Basic Principles of Measurement and Evaluation in Education  
 EDU 635 Organizational Behaviour and Leadership

### Indicative List of Courses of the Department of Psychology

(See descriptions in the Department of Psychology)

PSY 605 Psychometrics  
 PSY 610 Psychology in Education  
 PSY 616 Mental Representations  
 PSY 617 Counselling Psychology  
 PSY 620 Learning and Cognition  
 PSY 630 Contemporary Theories of Human Development  
 PSY 637 Social Development and Social Settings  
 PSY 701 Psychology of Instruction  
 PSY 707 Family and Child Development  
 PSY 712 Cognitive Science  
 PSY 715 Language Development and Language Disorders

### MASTER DEGREE IN EUROPEAN STUDIES

The Master degree in European Studies is offered by the Department of French and European Studies of the University of Cyprus in Greek and other International Languages however, its courses are usually taught in English. According to the linguistic profile of students, some courses can occasionally be taught in Greek or French. The aims of the Master's programme can be summarized as follows:

From an academic point of view, the programme aims to cover an obvious gap between the programmes offered internationally in the field of Postgraduate European Studies. More specifically, it aims to move away from the usual frame of such programmes which are usually based on a dominant politico-economic approach.

Thus, the postgraduate programme aims to investigate specific issues related to cultural Europe and to see how these issues relate to the philosophical, literary, visual and other cultural narratives. The programme puts forward ways of studying European cultural phenomena in a synthetic way, combining a specific European conjuncture with its diachronic depth.

From a research point of view, the aim of the programme is for its graduates to be able to carry out Doctoral Studies in specific fields of European Cultural Studies,

combining them with European Literature Studies, Comparative Literature, Visual and Art Studies, European History, Sociology, Anthropology and Political Sciences.

### Conditions of Admission

To be eligible, candidates must fulfil the following criteria:

1. A first degree in one of the wider fields of the Humanities and Social Sciences with an average of 7/10, or equivalent grade, and/or certified skills in research, and/or previous experience in European-related Institutions.
2. Satisfactory knowledge of at least one International Language (indicative Common European Framework of Reference for Languages level: B2).
3. Basic knowledge of a second international language, sufficient for elementary comprehension of relevant literature.

The Department has the right, if it deems necessary, to ask the selected students to attend courses outside of the programme (e.g. Research Methodology) in case weaknesses are noted in their training. The credit for these courses will not affect the total number of ECTS of the Postgraduate Programme since the grade will be in the form of Pass/Fail and therefore, will not contribute to the assessment level of the students.

### Application

The application is to be submitted electronically and should include:

1. A letter of intent with a brief report stating the research and/or career targets and interests of the candidate (500 words in an International Language).
2. A Curriculum Vitae in an International Language.
3. A copy of the Undergraduate Degree accompanied by a Diploma Supplement (DS) or an Analytical Assessment Report.
4. A sample of written work such as a brief article, excerpt from University work, etc. (optional).
5. Two reference letters.

Applications will be examined by the Departmental Postgraduate Committee. If the Committee deems it necessary, the selected candidates will be invited to a personal interview or will be interviewed via videoconference. The Committee's proposal will be submitted for final approval to the Board of the Department of French and European Studies of the University of Cyprus.

## Programme Duration

The programme extends over three semesters during which the physical presence of the students at the University is required. However, students can spend the maximum permitted time by the regulation of the University of Cyprus in institutions abroad through the ERASMUS+ Programme. As part of the exchange and cooperation programmes between the University of Cyprus and departments, laboratories or research institutes abroad, the possibility of a joint master dissertation supervision is viewed positively.

## Programme Structure

The programme extends over three semesters and requires a minimum of 90 ECTS. It concludes in the awarding of a Magister Artium. The programme of study per semester is distributed as follows:

	ECTS
<b>First Semester</b>	
FES 761-790 Course from the indicative list of the Department of French and European Studies	10
FES 761-790 Course from the indicative list of the Department of French and European Studies	10
FES 761-790 Course from the indicative list of the Department of French and European Studies	10
<b>Total</b>	<b>30</b>
<b>Second Semester</b>	
FES 761-790 Course from the indicative list of the Department of French and European Studies	10
FES 761-790 Course from the indicative list of the Department of French and European Studies	10
FES 761-790 Course from the indicative list of the Department of French and European Studies	10
<b>Total</b>	<b>30</b>
<b>Third Semester</b>	
FES 777 Internship <i>or</i>	
FES 780 Thesis	30
<b>Grand Total</b>	<b>90</b>

The compulsory courses that the students of the programme need to take are announced before each semester begins.

Students may substitute one course from the Master's curriculum with another course offered in another postgraduate programme at the University of Cyprus, provided that it is related to the subject of their thesis and carries an equivalent number of credits.

Conferences, workshops and lectures organized by the University on topics related to the curriculum are an important complement to the programme as their content may be the subject of evaluated written exercises.

**Thesis:** The Master's dissertation is an original work on a solid research project or an extended analysis of a topic undertaken under the supervision of a member of the Academic Staff of the Department. The second evaluator is chosen among the members of the Department or, if justified by the subject of the Master's thesis, he/she may be chosen from another Department of the UCY. The dissertation should be approximately 12,000-15,000 words in length. Students should select their subject and supervisor(s) by the end of the second semester of their studies. The dissertation is assessed by a Committee assembled at the beginning of the programme's third semester and consists of the supervisor or one of the supervisors, and another member of the Academic Staff. According to relevant regulations, the dissertation should be submitted before the viva voce examination, which occurs at the end of the third semester. In exceptional cases, justified by the subject of the Master's thesis, and after approval by the Departmental Board, the second evaluator may belong to another University.

Internships may be undertaken by students who wish to gain professional experience along with theoretical training. The internship's venue, which must relate to the Master's programme, is either proposed by the Supervisor, or suggested by the student. The internship programme (approx. 300 hours in total) is approved and defined by the supervising Professor and the Manager of the Institution where the internship is to take place. If an Internship Agreement is drafted, it is to be signed by them and the graduate student. The internship is completed with the submission of a comprehensive written report of approximately 8,000-10,000 words describing the student's activities.

## Working Languages

The programme's seminars are delivered in Greek and/or in an international language which needs to be specified each time depending on the language skills of the participating students. The bibliography of the seminars is in Greek and/or in an international language. Seminar work is written in a language to be agreed each time between the instructors and the students. The Postgraduate Dissertation is to be carried out in an International Language.

## Scholarships

Upon acceptance into the programme, students are eligible to apply for a limited number of scholarships, provided that scholarships are available that year. The deadline for submission of applications and the selection criteria will be announced on the Department's website.

## Course Descriptions (indicative list)

### FES 761 Elusive Definition(s) of Europe

In antiquity, the term 'Europe' referred to Zeus' beautiful lover as far as mythology was concerned, but geographically speaking it also denoted an entire continent. Later on, the word Europe was associated with a closed space hosting a common culture shared by many people. For example, after the Fall of Constantinople (1453), the term appears in the confrontation of the West with the Ottomans, noted in the speeches of Enea Silvio Piccolomini. From the 15th century and onwards, the meaning of the term develops rapidly. Humanists and people of the Enlightenment such as Erasmus, Bodin, Comenius, Grotius, Leibniz, Shaftesbury, Bolingbroke, Montesquieu, Locke, Hume, Voltaire, Rousseau, Kant and Novalis develop the idea of Europe in their political and cultural theories while at the same time they perceive Islam as a challenge as far as the re-examination of the relationship between Judaism, Islam and Christianity is concerned. It is due to their work that the secular meaning of the term prevailed: the various models of tolerance arise, the fear of the stranger as well as the image of the 'other' begins to be discussed. In the same framework, human rights, minority rights and gender rights become ideas worth struggling for. In the 19th century the term 'Europe' is used in order to combat various nationalisms. Finally, after the two World Wars of the last century, political theory perceived Europe as a great leap towards establishing an Ecumenical Community (Habermas). These changes in Europe's character demand a constant revision of it.

### FES 762 The Discourse of Culture in Europe, from Plato to Popper

Plato's *Politeia* (*'Republic'*) is a challenging text concerning the rearing and education (*'paideia'*) of people, which had a great effect on the European mentality throughout the ages. In his quest for justice, Plato proposed the tripartite distinction of the human soul (the *'logikon'*-logical, the *'thymoeides'*-the high spirited and the *'epithymitikon'*-the appetitive) as well as the theory of the four virtues (wisdom, courage, reason and justice). Furthermore, he combined the Theory of *'Paideia'* with the Philosophy of the State, the Theory of Science and the sharp viewing of Fine Arts. Europe's later pedagogues developed their own theories based on these Platonic preconditions. For example, the pedagogical texts of Castiglione, More, Rousseau, Schiller, Karl Popper and others, all discuss Plato's positions either directly or indirectly. This theoretical lesson allows a wider accessibility to Pedagogy, which contains elements taken from Anthropology, Psychology, Theory of the State and the Philosophy of History.

### FES 763 Tragedy in Europe and Europe in Tragedy

Although tragedy is a Greek invention it however, came to be a common cultural asset of the European culture as a whole, since it was developed in England (Marlowe, Shakespeare), Spain (Calderón, Lope de Vega), France (Racine, Voltaire), Germany (Goethe, Schiller, Kleist) and Scandinavia (Ibsen, Strindberg). Tragedy allows for social problems and tensions to be enacted and analyzed. From directing to the theatrical adaptation of a tragedy a close relation with the public is developed. Its initial ritual dimension (the interchange between dialogue and chorus and reference to myth) is presented in increasingly more modern forms. From the wide range of tragedy material, cultural conflict and wartime experiences are investigated (e.g. Aeschylus, *'The Persians'*), as well as the problems of political power (e.g. Shakespeare, *King Lear*), social conflicts (e.g. Büchner, *Woyzeck*), the battle between the two genders (e.g. Ibsen, *Hedda Gabler*) and more recently, criticism of the Bourgeois Society (e.g. Brecht,

The *Threepenny Opera*) come to light. Towards the end of the module, themes such as the special meaning and the possible interpretations of tragedy in Europe's modern societies are investigated, based on the *Short Organum* (Brecht) and the *Théâtre de la cruauté* (Artaud).

### FES 766 From Europe's Abduction to Huntington's Clash: Models of Cultural Interpenetration

This seminar examines various European and non-European models of cultural co-existence, which are usually articulated around binary opposites such as rejection vs. assimilation, or in terms of binary pairs such as separation and integration. The models studied will include the following: A) Models of Constructive Isolation. Isolation models include not only religious or nationalist discourses of distinction or superiority, but also the marking-off of certain bounded spaces both in and beyond Europe. As examples of such boundaries, we could cite, firstly, the Roman *limes Germanicus*, the *fossatum Africae*, the Antonine wall, the Great Wall of China, the Berlin and Nicosia walls or the Jerusalem 'fence'. Secondly, natural boundaries such as mountains, rivers and seas, like those mapping the Utopias envisioned by writers such as More, Campanella and Bacon. Thirdly, the construction of homogeneous and tautological concepts of (supra)national identity (for example, the Aristotelian hellenocentricity, medieval allegories of superiority, modern nation-states). B) *'Polemos'*: Titanomachy, Abductions and their Variations. *'Bellicism'* is an unfortunate but very real model of cultural interpenetration. It appears in many guises such as the Titanomachy that could serve as a metaphor for today's World Wars. Also known as the Battle of the Gods or as the Titan War, it was fought to decide who would become the rulers of Mount Olympus and to an extent the rulers of the Universe. Other aggressive models of interrelation take the form of revenge or abduction narratives (for example, Helen's abduction and the ensuing Trojan War) or the form of narratives of Discovery and Exploration, such as those that accompanied the European colonial expansionism. C) Models of Peaceful Interaction. Non-bellecist models of interaction include mythological narratives of marriage (Europe's abduction portrayed as an elopement rather than a rape) and various discourses of cosmopolitan idealism (Zeus, Xenos, Diogenes, 18th to 21st-century philosophers: Kant, Derrida, Levinas, Appiah, Sen, Thich Nhat Han), as well as contemporary narratives of peaceful interaction such as the recently agreed European Neighborhood Policy.

### FES 767 Cultural Hegemonies in European Space

Although art is generally subversive, it has also been used to serve absolute conformism. In its supposedly civilising manifestations, art – whether Pharaonic, Greek, Roman or Napoleonic – served to disseminate the image of a specific culture and/or a 'purely' cultural image of a civilisation. However, European history also offers many examples of the association of cultural hegemony in the Gramscian sense by promoting a dominant power, empire or ideology and by imposing an authoritarian or totalitarian political regime. Cultural hegemony has thus been deployed in order to glorify certain leaders, to encourage propaganda or even to impose a particular belief system. As a consequence of the points mentioned above, European art has often been on the side of the powerful. This course examines several examples of the mobilisation of art in the service of hegemony: for example, the modern or ancient architecture of the city (the Greek agora, theatres and baths; the Roman circus and forum; Olympic stadia and football stadia); civil engineering infrastructure (avenues, bridges and viaducts); religious edifices where religion serves to demonstrate power and to enable intercity competition for

architectural prestige (for instance, Greek temples, Gothic Cathedrals or the Vatican's Basilica of Saint Peter, the most significant Roman Catholic edifice in Europe); protestant painting as used to promote both the new reformed faith as well as the financial power of the bourgeoisie (for example, post-reformation portraits of bankers and moneylenders). Also relevant to this context are the plans for (unfinished) megalomaniac projects such as Germania, Hitler's would-be new capital city and political posters promoting the cult of personality. Further evidence of art in the service of hegemony is provided by the instrumentalised status of certain Artistic Institutions: for instance, Louis XIV's Royal Academy of Fine Arts or the corporate organisation of the Imperial Chamber of Culture (Reichskulturkammer), instituted by Goebbels as a means of promoting 'Aryan art'.

### **FES 768 The Critique of Justice in European Culture**

Europe could be described as a Space of Law. However, from very early on the founding texts of a society aspiring to the highest ideals of justice (Aeschylus, Sophocles, Solon) were accompanied by the intellectual skepticism of writers questioning both the theory and practice of the Law. As a result, we have the numerous indictments in European culture both of the legal profession (Molière, Dickens, Hugo, Dostoyevsky, Brecht) and of the Law itself and its aspirations towards an ideal Justice illustrated by Heraclitus, Shakespeare, Kafka, Nietzsche, Camus and many more. The Law appears in many forms in the European culture and it speaks in many different idioms. Yet, from Aeschylus to Brecht, from 'ύβρις' to Utopia and from philosophy to satire (Swift, Montesquieu, Voltaire, Orwell), from sculpture to cinema (Tavernier, Van Diem, Costa-Gavras) and even caricature (Daumier), the critique of the Law and of its servants is an important part of Europe's permanent re-evaluation of the very idea of justice.

### **FES 769 Paris – Second Empire, Berlin – Weimarer Republik, Europe – État de Siège**

Benjamin's works on Baudelaire and Paris of the Second Empire are inspired by the historical experience of the Weimarer Republik and the rise of the Nazis. Why would a critical thinker read today Benjamin who is reading Baudelaire? In the context of the European crisis, Benjamin's conception of the "jump of the tiger", the "dialectic jump out of the continuum" to past revolutionary momenta, is a moral stimulant for rewriting the story of the oppressed in the actual present (Jetztzeit). Linear progress towards moral and social perfection of the humankind sounds like a fairytale that has nothing to do with the nightmare in which Walter Benjamin was trying to awake. Auguste Blanqui depicted human flow of events as the return of the eternally same: oppression. How can the materialist thinker adapt the point of view of the oppressed and not follow the "phantasmagorical" drug of the oppressors? For Benjamin the history of the oppressed is made of vacua and intensively condensed moments: revolutionary interruptions of the oppression. From Spartacus to Spartakusbund, there is a secret passage forming a unique constellation out of the two distant events and permits to "restore" (*apokatastasis*) the dead in their rightful place in today's struggle. But victory won't be the fore coming of a state of eternal delight: it will merely end the course towards destruction. Drawing the alarm and stopping the train before it reaches the cliff is the real meaning of a revolutionary act. This course will wander through the pages of Benjamin, Balzac, Baudelaire, Edgar Poe, Georg Simmel, Siegfried Kracauer, Joseph Roth, Karl Marx, Friedrich Engels, Auguste Blanqui, Gracchus Babeuf, Charles Péguy, Karl Kraus, Massimo Cacciari, David Frisby, looking for patterns of crisis-situations in European "constellations".

### **FES 770 Which Political Form for which Europe?**

The questions underlined in the political thought are three: that of the political subject, the one of the political regime, and, last and most important, that of the political form. The latter has received less attention than the other three, but in spite of this fact it has gained an acute interest these last years regarded as a key question to the European unification. What is Europe today? What could a unified Europe of tomorrow be? This course will examine three political forms that suit the importance and the size of the European experiment: the Empire, the Church, and the Confederation. The first two permit the coexistence under one Rule not only of individuals of different nations and cultures, but also of different ethnic groups and nations, as Lord Acton defines the Empire. The third permits the entry of different States in one common legal and political framework. The transition from the national European States to a supranational European State proves itself to be a much more difficult step than certain visionaries had imagined it. Like Victor Hugo, they thought or still think that there is only one European nation, and Europe should be a National State. Others have proclaimed Europe a democratic Empire or a Christian club. Is there any reality under these alleged European forms? Can European States become a confederation as others dream?

### **FES 771 European Spirit in the Globalized Era**

European spirit gave birth to what we call the West. Its roots are to be found in Athens, Rome and Jerusalem, in Constantinople, Bagdad and Cordova. Europe has expanded in order to dominate the world, or to put it in the very words of Hegel, to incorporate the world in the World History. Contemporary Democratic Systems are as indebted to Pericles and Cato as they are to Franklin and Jefferson. Europe's actual civilization is enriched by the cultures of its former colonies and on became global. What is today a "European" culture? What is the difference between globalized culture of modern Bourgeois Democracy and contemporary big cities around the world? What is its difference compared to the East and the West? When the degree of cultural interaction transforms difference in identity and vice versa, the birthplace of Western civilization seems to lose its specific difference.

### **FES 777 Internship**

An internship can be undertaken by proposal of the student and approval of the supervising Professor, on the condition that the student has secured a place in an organisation fully or partly associated to the subject of his/her study. Through the internship students get to know the work environment, and acquire the skills for a successful career in organisations that deal with European issues.

### **FES 780 Thesis**

The thesis is a relatively autonomous learning process that seeks to exploit the acquired expertise of the graduate programme and put it into practice. Specifically, the student seeks to gain expertise in a particular subject and after working on an independent research to be able to draw conclusions that will have research and scientific interests.

### PH.D. PROGRAMME IN FRENCH STUDIES OR EUROPEAN STUDIES

The Ph.D. Programme in French Studies or European Studies provides students with a contemporary and specialised education and gives them the opportunity to acquire scientific expertise. The programme trains students for research and research methodology in compliance with the current requirements of academic knowledge as it is very important to be aware of the new European reality.

Graduated students of this programme may work in various sectors and institutions of the Republic of Cyprus as well as in the European Union, and practise academic teaching, public and private teaching, provide cultural and linguistic services, public services at International Institutions, Diplomatic Bodies, Translation Centres, in the Tourism and Hotel Industry, Media, Multinational Companies, NGOs etc.

#### Terms of Admission

The date for submission of applications for the Doctoral Programme (Doctorate level, according to the European Framework 3-5-8) will be announced by the Department; the date will apply to all Ph.D. programmes of the Department. Students who have not yet obtained their Master's degree but who will complete their studies by the 31st of July of the year that they wish to enter the Ph.D. programme will be eligible. Applicants with a relevant degree in Science must demonstrate proficiency in the French language (writing, reading and speaking skills); knowledge of additional foreign languages will be considered as an additional qualification.

#### Applications and Number of Admissions

The applications must be submitted to the Graduate Programme Coordinator by the date specified by the University. The number of admissions per year is five (5) Ph.D. students.

Applications must include the following:

- a. A sample of scholarly writing: short article, a chapter from the Master's thesis, etc.
- b. Evidence of proficiency in the Greek, English, French or German language.

All candidate applications will be reviewed by the Graduate Programme Committee of the Department. If the Committee deems it necessary, selected candidates may be invited to a personal interview or teleconference interview. The Committee submits its final selection of candidates to the Department Council for their final approval.

#### Programme Duration

The Doctoral Degree must be completed within eight (8) years from the day of admission to the Doctoral Programme. Doctoral students are encouraged to spend up to one calendar year of study at Universities abroad through an exchange programme.

#### Programme Regulations

The Doctoral studies are regulated by the Postgraduate Students Regulation of the University of Cyprus. See our website for the Regulation text.

#### Programme Structure

The Ph.D. Programme in European Studies comprises a minimum of 240 ECTS. The distribution of the ECTS in the different stages of the programme is as follows:

Master II	60
FES 650 Research Stage I	30
FES 651 Research Stage II	30
FES 652 Research Stage III	30
FES 653 Research Stage IV	30
FES 660 Comprehensive Exam	0
FES 661 Thesis Proposal	10
FES 670 Writing Stage I	15
FES 671 Writing Stage II	15
FES 680 Thesis Defence	20
<b>Total</b>	<b>240</b>

For the registration in the Ph.D. programme, the Department may request the student to attend extra courses or seminars.

**Each semester is equivalent to 30 ECTS**, either at the Research stage or at the stage during which the thesis is being composed. However, the student may divide each research stage in two semesters and complete 15 ECTS per semester. Students must register for each stage of the programme and as a consequence, must pay the fees for each semester unless they formally wish to take a leave.

**Research Supervisor.** The doctoral thesis has to be conducted by a Supervisor. The Supervisor is assigned by the Departmental Board after a proposal made by the Department Graduate Programme Committee and consultation with the doctoral student and the proposed Supervisor. The Supervisor monitors the research work of the student and provides all necessary support and guidance.

**Tripartite Committee.** At the end of the second semester of the programme (the latest) a tripartite Research Committee is selected with the role of monitoring the Ph.D. thesis writing. This Committee is chosen during a Department Board meeting on the recommendation of the Department Postgraduate Studies Coordinator and

the Ph.D. Supervisor. The Ph.D. Committee consists of: a) The research supervisor who is the main coordinator of the Ph.D. thesis; b) Another member of the Department of French and European Studies; c) Another member from either the Department of French and European Studies or from another Department of the University of Cyprus, or even from another University or Research Center as long as this member works in a relevant domain. The Committee evaluates the student's progress in his/her Ph.D. studies and defines the examination type of the Comprehensive Exam.

**Participation in Courses.** The Supervisor may request from the Ph.D. candidate to attend extra postgraduate courses offered by the University of Cyprus, if they are considered to be necessary for the candidate's research.

**Comprehensive Exam.** The doctoral student must take a comprehensive examination, preferably by the end of the fourth semester. In case of a failure, the doctoral student must repeat the Comprehensive Examination by the end of the sixth semester the latest. In case of a second failure, the studies are interrupted. The Department of French and European Studies at the University of Cyprus is responsible for planning the Comprehensive Exam.

**Approval of the Proposal for a Doctoral Thesis.** The proposal must be submitted no later than two semesters after success in the Comprehensive Examination and until the expiration date of each course. The presentation of the proposal must be made within the existing examination period. In case of a rejection of the thesis proposal, or if modifications are suggested, the Ph.D. candidate must submit a new thesis proposal to the Committee, the latest before the end of the following semester. In case of a second failure, the studies are interrupted. From the moment the thesis proposal has been approved, the candidate starts to write his/her thesis.

**Ph.D. Thesis.** The thesis must be original and should make a significant contribution to the student's chosen field. It should be between 80,000 to 100,000 words - the exact length can be discussed between the candidate and the Research Supervisor.

**Language of the Thesis.** For the Ph.D. in French Studies, the thesis must be written in French. For the Ph.D. in European Studies, the thesis may be written in Greek, English, French or German.

**Thesis Defense.** The jury is composed by 5 people and selected by the Departmental Board based on the recommendations of the Postgraduate Committee and the Research Supervisor. The jury must be composed of the Tripartite Research Committee and: a) three faculty members of the Department, one of whom is always the research Supervisor; b) a member of another University

or a Research Center equivalent to University level; c) a member of another Department of the University of Cyprus or another University or Research Center equivalent to University level who belongs to a relevant field. The president of the Postgraduate Committee must be a member of the Department however, this does not apply for the Research Supervisor.

**Non Award.** If the Selection Committee votes for non-award of the doctorate, the candidate is allowed to resubmit the thesis for a second and final time, after complying with the recommendations of the Commission. In this case, the whole process is repeated. The Committee must remain the same for the second submission, with the replacement of a member allowed only in the case of a very serious reason.

**Participation in Exchange Programmes.** The Ph.D. candidate may and is encouraged to spend up to one civil year of his/her studies in foreign Universities.

## Research Interests of the Academic Staff

### • Yiannis Ioannou, Professor

French Literature and Comparative Literature: 19th and 20th century. The Surrealist Movement, the Phenomenon of Poetic Creation, the work of Odysseus Elytis and his role in the French way of thinking and literature, French poetry from Baudelaire to Surrealism, the Political Culture.

### • Fabienne Baider, Associate Professor

French Linguistics: a) Semantic Analysis of noun predicate (in particular, The Notion of Context), b) Pragmatics: Speech (Advertising, Tourism) and its Realization. The Science of Dictionaries: a) Ideology and Lexical Reason, b) Etymologically Utilitarian Signs and Lexical Loans (particularly as regards the relationship between a "strong" and a "weak" language, c) Longitudinal Approach (Historical Expressive Practices). Feminist Theories: a) the category of gender as a category of linguistic analysis (analysis for interactive and textual expression), b) feminization - generalization.

### • May Chehab, Professor

Master EUR: The European culture in its various aspects (myth, history, cartography, literature, arts, cinema). The different forms of European unity, from the Fall of Constantinople until the contemporary construction of the 28 Member-States and their fate. Europe and other continents: how the European perceived or perceive the other people/cultures and how the other people/cultures saw or see the Europeans.

Master FR: Comparative Literature: Relations of the French Literature with a) The Ancient Greek Philosophy, b) Scientific Discourse, c) Human Rights, d) the Arts. Narratives of the 'I': Autobiography.

### • Panagiotis Christias, Associate Professor

a) Plato, St. Paul, Ancient and Hellenistic Philosophy, Platonism and the Platonic tradition (Greek Fathers of the Church, Leo Strauss); b) The ancient and younger: a culture of shared passions (Classical and Hellenistic Philosophy, French thought and Philosophy during the 7th- 19th century); c) The Dynamics

of the Western Civilization: Machiavelli, Bodin, Montaigne, Descartes, Pascal, Montesquieu, Rousseau; d) The French social novel of the 19th century; e) Social thought in Germany around 1900: Friedrich Nietzsche, Georg Lukacs, Georg Simmel, Max Weber, Walter Benjamin, Thomas Mann; g) Sociological Theories, Theories of the Imaginary, the Sociology of Modern Greek Literature.

• **Efi Lamprou, Assistant Professor**

Linguistics and Automatic Translation: linguistic description of the language in order to translate and process language (identification and description of textual structures), Description of the Semantic and Syntactic Properties and Peculiarities of Natural Language, Object Classes and Semantic Groups, Import, Verbs Adjuvants Structures and Traditional Expressions, Electronic Dictionaries, Polysemy. Linguistic Approaches to the Act of Translation: Linguistic and Practical Problems of Translation (matches - equations and cognitive contexts background).

• **Fryni Kakoyianni-Doa, Assistant Professor**

French and Comparative Linguistics: a) Syntax (analysis through parallel corpora), b) Morphosyntax and Semantics of Data and Adverb Prepositional Determinations of the French and Greek languages, c) Lexicology (lexical semantics, ambiguity function, lexical categories). Classification and Grouping of the Vocabulary,

Phonetics and Phonology (phonographic and elocution code), e) Sociolinguistics (minority languages). Didactics: a) Teaching French as a Foreign Language (teaching grammar, especially adverb elements of spoken and written language, voice and image; semiotics of image, sound and image, new technologies, tools and pedagogical approaches), b) Application of the Theory of Lexis and Lexicon-Grammar in teaching French as a Foreign Language, c) Applications of Teaching French as a Foreign Language through Parallel Corpora.

• **Martin Voehler, Assistant Professor**

Pindar, Horace and Lyric Poetry. Poetics, Rhetoric and Hermeneutics in Antiquity and in Modern Times. Theater in Antiquity and in Modern Times. Philhellenism. History and Theory of the Literary Translation. Enlightenment, Weimar Classics, Romanticism.

**Communication**

**Department Secretariat**

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# Department of Turkish and Middle Eastern Studies



*The Department of Turkish and Middle Eastern Studies offers a Programme of Postgraduate Studies which leads to the degrees of M.A. (Master) and Ph.D.*

## **MASTER IN TURKISH STUDIES**

### **Introduction / Aim of the Programme**

Turkish Studies comprise the study of the Turkish and other Turkic languages, as well as the history, the literatures and the civilizations of Turkic peoples from the 8th century AD to the present day. The various fields of Turkish Studies are: Turkology or Turkic Studies, which deal with the whole spectrum of Turkic languages and literatures; Ottoman Studies, which focuses on the linguistic varieties, the history and the civilization of the Ottoman Empire (14th-20th century); Modern Turkish Studies, which deal with the politics, the literature, the economy and the society of Turkey in the 20th century; Islamic Studies, which are an integral part of Ottoman and Modern Turkish Studies and are related to Middle Eastern Studies, which cover the study of the Middle Eastern peoples (particularly Arab and Iranian), their languages and civilizations. Moreover, Turkish Studies also include the study of the Balkan peoples, in relation to the Ottoman and Turkish world.

Turkish Studies at the University of Cyprus cover the majority of the above-mentioned fields of Turkish and Middle Eastern Studies. There is particular thematic emphasis on the context of the island and especially the Turkish-Cypriot community, as well as the broader region, the interests and orientations of the staff and the academic and professional prospects of the graduates. Members of the Academic Staff in the Department of Turkish and Middle Eastern Studies participate in the Master's Programme as instructors and academic advisors, while sometimes Visiting Professors will also participate in the Programme.

The aim of the Master's Programme is to equip students with the knowledge and skills necessary in order to be able to work independently in regard to the language, history, civilization, literature and politics of the Ottoman Empire, Turkey and subjects related to the Turkish-Cypriot community. The specialization courses will help students improve their linguistic skills while gaining in-depth knowledge of one particular field. This specialization will determine the subject of their original Master's Thesis.

## Programme Organization

The Master's Programme requires the completion of 120 ECTS and consists of four elements. The Master degree requires the successful completion of all four elements of the Program:

- Courses
- Attending the Department's Lectures and Graduate Seminars
- Participation in the Colloquium
- Writing a Master's Thesis

**Courses:** Three introductory courses and six courses covering all scholarly fields of Turkish Studies. The three introductory courses focus on the primary and secondary source materials and on the methodology appropriate to the analysis of various fields of Turkish Studies. The other courses are specialization courses in different fields of Turkish Studies. The specialization courses offered each semester will be decided by the Department Board.

**Attendance at Lectures and Seminars:** Attendance at the lectures that comprise the Department of Turkish and Middle Eastern Studies Lecture Series is mandatory. Attendance at the Graduate Seminar Series, held throughout the course of the semester, is also required.

**Participation in the Colloquium:** All candidates for the Master's degree must present a paper, which will be on a topic of their choice and based on their own research. The Colloquium will take place in the fourth semester of study and the student's topic should be decided in collaboration with his/her Research Advisor.

**Master's Thesis:** The thesis must be at least 15.000 words long. The completion and presentation of the thesis takes place after the completion of the first three semesters.

## Criteria for Acceptance

Graduate students are admitted to the Programme in accordance with the criteria outlined in the General Rules of Postgraduate Studies. Admission to the Master's Programme requires a Bachelor's degree in either Turkish Studies, Cultural Studies, or a subject in the Humanities or the Social Sciences. The degree must be from an accredited university. Admission may require a personal interview or additional relevant testing, at the discretion of the Department.

Classes will be taught in one of three languages, Greek, Turkish or English, while course materials will include texts in Turkish as well as other languages. Candidates must know Turkish well enough to study texts in Turkish at an academic level. Borderline cases will be examined during the interview. The minimum requirement is a

certificate of coursework in the Turkish language corresponding to 50 ECTS. If the Department deems it necessary, there may be a special examination to test the applicant's proficiency in the Turkish language. Knowledge of at least one foreign language (other than Turkish) is essential. In case that language is not English, the student must at least have the basic competence to respond to texts in English. Knowledge of additional languages will be considered an additional qualification.

Graduates of Greek universities and of the University of Cyprus must have a minimum grade of 6.5/10. The equivalent grade is also required from graduates of other universities.

The Department's Graduate Studies Committee evaluates applications, interviews candidates when necessary and recommends to the Department Board a list of proposed candidates to the Programme. The final decision rests with the Department Board.

## Rules of Study

Postgraduate studies are regulated by the General Rules of Postgraduate Studies of the University of Cyprus and the Internal Rules of Graduate Studies of the Department of Turkish and Middle Eastern Studies.

## Requirements for the Master Degree

All students in the Master's Programme will be assigned an Academic Advisor. This may be the Graduate Programme Coordinator or a member of the Department's Board of Graduate Studies (in the absence of the Coordinator). Students work closely with their Academic Advisor throughout the entire programme of studies.

Full-time attendance for at least four semesters and completion of the thesis by the eighth semester following initial enrollment are essential.

Successful completion of 120 ECTS is required. These are distributed as follows:

	ECTS
- Three Introductory Courses (3x9)	27
- Six Specialization Courses (6x9)	54
- Attendance at Lectures and Seminars (4x1)	4
- Participation in the Colloquium	1
- Master's Thesis	34
<b>Total</b>	<b>120</b>

For workload equivalents, the general rules of postgraduate studies of the University of Cyprus apply; 1 ECTS represents 25 to 30 hours of student workload.

## Programme of Studies

	ECTS
<b>First Semester</b>	
History-Politics: Sources, Analysis and Interpretation	9
Linguistics: Sources, Analysis and Interpretation	9
Literature: Sources, Analysis and Interpretation	9
Attendance at Lectures and Seminars	1
<b>Total</b>	<b>28</b>
<b>Second Semester</b>	
Specialization Course	9
Specialization Course	9
Specialization Course	9
Attendance at Lectures and Seminars	1
<b>Total</b>	<b>28</b>
<b>Third Semester</b>	
Specialization Course	9
Specialization Course	9
Attendance at Lectures and Seminar	1
Master's Thesis Writing I	12
<b>Total</b>	<b>31</b>
<b>Fourth Semester</b>	
Specialization Course	9
Attendance at Lectures and Seminars	1
Participation in the Colloquium	1
Master's Thesis Writing II	22
<b>Total</b>	<b>33</b>
<b>Grand Total</b>	<b>120</b>

## Course Descriptions

### INTRODUCTORY COURSES [TUM 601-603]

#### **TUM 601 History/Politics: Sources, Analysis and Interpretation**

The purpose of this course is to familiarize students with the various source materials in the special fields of Turkish Studies, and to develop their skills in the use and interpretation of these sources. Students will study selected and representative primary sources related to the history and politics of the Ottoman Empire and modern Turkey. Throughout the course, students will be expected to analyze primary sources and apply methodologies for their interpretation. Additionally, as part of the course, students will learn how to prepare an academic paper, both in terms of format and writing at a scholarly level. The course will help to develop students' ability to study, understand and process primary and secondary sources in these fields. By the end of the semester, the student will be able to research, design and write up his/her own academic paper.

#### **TUM 602 Linguistics: Sources, Analysis and Interpretation**

The purpose of this course is to familiarize students with the various source materials in the special fields of Turkish Studies and to develop their skills in the use and interpretation of these sources. Students will study selected and representative primary sources in relation to the linguistic study of the Turkish language and Turkish Literature. Students will be expected to analyze these sources using methodologies appropriate for language and literature. They will also study literary texts and other linguistic material such as texts, speeches, and interviews.

Additionally, the course will show students how an academic paper is prepared, in the sense of introducing them to academic-level writing. The course aims to develop the students' ability to study, understand and process primary and secondary sources in these fields. By the end of the semester, the student should be able to utilize the particular sources to design and complete his/her own academic paper.

#### **TUM 603 Literature: Sources, Analysis and Interpretation**

This course examines a series of research topics on the subject of Ottoman and Turkish Literature. Each topic will cover a group of literary texts (one author or one literary movement) and the relevant secondary literature. Outside of class students will be required to study a similar but different issue. Students will prepare a study in which they present their own conclusions using arguments based on the relevant texts and secondary sources. The choice of subject will be made in consultation with the instructor. Students will be required to take a final examination. Students will also be taught how to prepare an academic paper so that they become familiar with academic-level writing. The course aims to develop students' ability to study, understand and process primary and secondary sources in these fields. By the end of the semester, it is expected that the student will be able to process particular sources and to design and complete his/her own academic paper.

### SPECIALIZATION COURSES

#### [TUM 610 – 700 and TUM 701 - 800]

These courses focus on different areas of Turkish Studies, for example, Linguistics, Literature, History and Politics. Each course covers the analysis and presentation of specialized topics in one of the above-mentioned fields.

### OTTOMAN HISTORY COURSES [TUM 610-650]

#### **TUM 610 Historians and Chroniclers of Early Ottoman History**

This course focuses on the study of texts written by historians and chroniclers of early Ottoman history, starting with the first examples in the early 15th century, and concluding with the climax of the first period of Ottoman historiography, during the reign of Bayezid II (1481-1512). Students will study extensive excerpts from texts by various authors from the 15th and 16th centuries, such as Aşıkpaşazade, Neşri, Tursun Bey and Kemalpaşazade, and they will discuss modern interpretations of the content and significance of these texts, particularly in the context of the establishment of the Ottoman state.

#### **TUM 611 Evliya Çelebi and his World**

This course will study the life and work of the Ottoman traveller and writer Evliya Çelebi (1611-1682). Based on his work, *Seyahatname*, which describes most cities of the Empire and the customs of their residents, we will seek a deeper understanding of the Ottoman world of the 17th century, with particular emphasis on the history of culture, mentalities and daily life.

#### **TUM 612 Ottoman Istanbul**

This course focuses on the study of Istanbul as an Ottoman city. There will be a particular emphasis on the city's significance in the Ottoman Empire, as an administrative as well as an economic and cultural center. Through Ottoman sources of the period, as well as recent studies, we will study in depth various aspects of the history of Istanbul, like the transformation of the Byzantine city into an Ottoman one in the 15th century, urban growth and expansion, the city's image at different times, e.g.,

during the Tulip Period, and the attempts at modernization in the 19th century.

#### **TUM 613 Ottoman Empire: Reforms and Modernity**

This course focuses on the question of modernity and the attempts of the Sublime Porte to form a new type of state in the period of the Ottoman reforms of the 19th century. The main axes of analysis will be the efforts of the Ottoman state to create a new administrative model, the reorganization of the basic structures, the inclusion of non-Muslims in this new model and the new conditions that made possible the emergence of new ideologies in the Ottoman lands. The course will be conducted in the form of seminars, using archival material and secondary literature.

#### **TUM 614 Communal Organisation in the Ottoman State**

This course examines communal organization in the Ottoman Empire, with emphasis on the communal organization of the Greek Orthodox community. The main axes of analysis will be the formation and evolution of communal authority at the administrative level, the shaping of administrative institutions within the community and the changes they incur, the decision-making process and the importance of the religious community at the political level. Particular emphasis is given to developments in the 19th century Ottoman state and the situation of the Greek Orthodox community within the framework of the changes imposed by Ottoman reforms. The course will be conducted in the form of seminars, using archival material and secondary literature.

#### **TUM 615 Continuities and Discontinuities in the Transition from Ottoman to Colonial Space**

This course will analyze the transition from Ottoman to Colonial Space, using the case of Cyprus as an example. The Ottoman administrative model, as it was manifested on the island, as well as the administrative structures that were subsequently changed after the reforms of the 19th century, are analyzed and compared with the structures created when the administration of Cyprus was transferred to Britain and a new administrative model was imposed. The purpose is to study continuity and discontinuity with respect to the two administrative models. The course will be conducted in the form of seminars, using archival material and secondary literature.

#### **TUM 616 Embassies and Consulates in the Ottoman State**

This course will analyze the operation of embassies and consulates in the Ottoman Empire during the 18th and 19th centuries. The archival material of the consulates, in conjunction with archival material of the Ottoman administration, provide a wealth of information about the functions of consulates, their importance for the countries they represented, the Ottoman administration and the peoples living in the areas in which they operated. The course will be conducted in the form of seminars, using archival material and secondary literature.

### **COURSES ON THE HISTORY/POLITICS OF TURKEY [TUM 651-700]**

#### **TUM 651 The Kurdish Question in Turkey**

The Kurdish question is a significant problem of the Turkish Republic. Some measures for secularization, modernization and Turkification met with resistance from the Kurds (and others) and led to uprisings, which were suppressed. From the 1960s

onwards, we may observe, on the one hand, a process of assimilation, even inclusion of Kurds in the Turkish state and society. On the other hand, the Kurds are demanding more rights and greater participation in social developments in Turkey. Recent years have seen greater transparency in the Kurdish Question.

#### **TUM 652 Ethnic and Religious Minorities in Turkey**

According to the official view, the term "minorities" in Turkey means only the non-Muslim minorities of Armenians, Greeks and Jews. This view, which is based on the Ottoman millet system, ignores Muslim groups, such as the Kurds, Laz and Circassians. Next to the Sunni majority, there is a significant minority of Alawites. This course aims to deepen the student's knowledge of the religious and ethnic mosaic that composes modern Turkey.

#### **TUM 653 Atatürk: Elements of a Biography**

The founder of modern Turkey is one of the most fascinating figures of the 20th century. After the collapse of the Ottoman Empire, he imposed the westernization of the country almost single-handedly. His legacy continues to shape Turkey even today. Turkey's relationship with Kemalism plays a decisive role in the process of its accession to the European Union. The course follows the itinerary of the "Father of the Turks" from his beginnings as a military officer to his rise as an authoritarian reformer and politician.

#### **TUM 654 The Family in Islam and Turkey**

In Islam the patriarchal family is widespread. Marriage and divorce, polygamy and inheritance law have been, since the early 20th century, the subject of reform in many Islamic countries. In the first part of the course, we will analyze both the institution of the family and its position in the Islamic legal framework. The second part is devoted to the topic of the family in Turkey. In particular, we will examine kinship systems, family structures and their change, and the moral values and standards associated with them.

#### **TUM 655 Aspects of the History of the Armenians in the 20th Century**

This course covers the following topics: the policy of the Great Powers in relation to the Ottomans and the Armenians prior to World War I; the Turkish attacks on the newly established Republic of Armenia and the Russian conquest of the republics of the Caucasus; the Varlık Vergisi tax; the situation of the Armenian community in Istanbul; Nagorno Karabagh "knot". Students will read primary and secondary texts in Turkish on the above issues. Students will be required to prepare a study, the subject of which must be approved by the instructor.

#### **TUM 656 Turkish Modernity and its Dilemmas. Kemalism, Tradition and Religion**

In this course students will research and analyze modernity in relation to the modern Turkish state, its peculiarities and diversity. Kemalism will be analyzed in relation to modernity, which it imposes, while tradition and religion will be analyzed in terms of their relationship to and their impact on Turkish modernity.

**TUM 657 Greece, Turkey, Cyprus. The History of a Complex Relationship**

This course focuses on the complexity of the relationship between Greece, Turkey and Cyprus, as well as the changes in this relationship over time. We will consider Greek-Turkish relations from the time of the establishment of the Turkish state to the present, as well as how Cyprus features as an integral part of these relations. The complexity of the 20th century – in relation to international developments, developments between Greece and Turkey and developments in Cyprus – is the basic framework of analysis.

**TUM 658 Collective Memory and National Identity in Turkey**

The course examines the question of national identity in Turkey, looking at identity throughout the years since the establishment of the Turkish state, and how it is connected with developments in relation to the formation of a collective memory in Turkish society. In the same context, the course focuses on minority groups in the Turkish state and the elements of differentiation they express.

**TUM 659 Political and Historical Themes and Issues of the Turkish Cypriot Community**

This course examines themes and issues in the political life and history of the Turkish Cypriot community. It examines the history of the Turkish Cypriot community from the beginning of the British Colonial administration until the Independence of the Republic of Cyprus, as well as the developments in the sixties and after the Turkish Invasion in 1974. In parallel with the historical developments, it focuses on political developments such as the Rise of Turkish Nationalism, Political Movements and Organizations, and the Civil Society.

**TUM 661 Rural Migration and Urbanization in Turkey**

The course aims at familiarizing students with one of the most important problems of contemporary Turkey, i.e. the processes of rural migration and urbanization. After an introduction to the topic, students will study in depth various aspects of the phenomena of migration from the countryside to the cities on the basis of social science related research as well as literary texts. Learning goals: Students shall learn how modern Turkey has been shaped by the factors of internal migration and urbanization. They will develop knowledge about population and social structures, value systems, social change, as well as the transformation of cities as a consequence of the influx of peasants.

**LITERATURE COURSES [TUM 701-750]****TUM 701 Literary and Historical Dimensions of First-Person Narratives in Turkish Literature**

This course focuses on the memoirs of politicians, artists, representatives of Turkish literary life, intellectuals and others. In Turkey, literature is quite popular, provided that it offers readers “true” information about life in Turkey today, from different points of view. In fiction, the form of first-person narrative is often chosen in order to produce the illusion of truth in the text. In this course, students will be presented with an overview of first-person narratives in Turkey and they will study the problem of “truth” in literary texts. We will read selected texts in Turkish and discuss their literary and historical dimensions.

**TUM 702 Ottoman Travel Literature**

In this course, students will be offered an overview of Ottoman Turkish Travel Literature, focusing on reports of ambassadors (sefaretname) and travel texts (seyahatname), written in the 17th and the 18th century, respectively. We will read selected texts in Ottoman and we will analyze them in the context of Turkish Literature.

**TUM 703 “Writing about the Nation”. Turkish Authors as Creators of a New Ideology**

In this course, students will read and analyze texts written during the period of transition from the Ottoman Empire to the modern Turkish Republic, such as those of Ziya Gökalp and Ömer Seyfeddin among others. The aim of the course is to study and discuss the role of contemporary Turkish literature in the emergence of the Turkish nation.

**TUM 704 Non-Turkish Authors Writing in the Turkish Language**

In this course, students will be offered an overview of the history of the literature of non-Turkish and/or non-Muslim authors who write in Turkish. In the context of this course, we will read and analyze texts by Kurdish, Armenian, Greek and Jewish writers of the 19th, 20th and 21st centuries.

**TUM 705 Culture of Memory in Turkish Literature**

This course examines Turkish literature as a field of culture of memory. In the context of this course, we will study and discuss texts related to the theoretical framework of the question of the culture of memory in Turkey, as well as literary texts that can be classified as a special kind of “memory documents”.

**TUM 706 The Historical Novel in Turkish Literature**

Over the last two decades, the historical novel (tarihi roman/tarihsel roman) has been one of the main types of Turkish Literature. This course studies, analyzes and discusses theoretical texts concerning the emergence of a “new historical novel” in Turkey and the ongoing discussion around the theme of “History and Literature”. In the context of the course, we will study and analyze historical novels from different periods.

**TUM 707 Generic and Thematic Characteristics of Turkish-Cypriot Literature**

Literature written in the Turkish language has been produced in Cyprus since the 16th century. But only in the late 19th century did this literature begin to diverge significantly from the literary developments in (Ottoman, and later Republican) Turkey. In this seminar, the specific developments in Turkish-Cypriot literature since the British colonization of the island in 1878 will be examined. While they first were strongly influenced by the literary developments in Turkey (Tanzimat literature, national literature, poetry movements like “Garip” and the “Second New”), they eventually found entirely new themes and forms of expression (the “74 generation” and later developments).

**LINGUISTICS COURSES [TUM 751-800]****TUM 751 Turkish Languages/Comparative Turkology**

The seminar presents characteristic features of the Turkic language family/branch, with an emphasis on structural similarities, Intra-Turkic developments and contact induced change from a comparative point of view, based on written and oral texts (and other media) in the target language, and on

articles/sources reflecting current trends and discussions related to these topics in the field of Turkology.

#### **TUM 752 Historical Linguistics/History of the Turkic Languages**

The seminar examines historical aspects of Turkic. The instructor will focus on one of the following topics, or one topic across several thematic groups: older forms of the languages of the Oghuz group (Pre-Ottoman/Old Anatolian Turkic, Ottoman Turkish, Azeri, etc.); historical stages of the Turkish language used by minorities, as reflected in the Karamanlidika; the Turkish language reform and the making of the lexicon; historical grammar.

#### **TUM 753 Contact Linguistics, Dialectology and Sociolinguistics**

The seminar offers a survey of current methods of contact linguistics, dialectology and/or socio-linguistics. Students learn how to handle instruments applying to the analysis of spoken varieties (such as acoustic phonetics/the reading of spectrograms, notations in the IPA-alphabet, inter-linear morpheme analysis), and how to interpret dialect markers, stigmatized features, and structural changes reflecting language contact influence. The regional focus is on Anatolian dialects and Cyprus Turkish, as well as constellations of Turkish in contact with Greek, Iranian, Slavic, Armenian, etc.

#### **TUM 754 Didactics/Applied Grammar**

The seminar gives an overview of current trends and methods in the field of language teaching/Teaching Turkish as a Foreign Language, and didactics. It presents concepts of language teaching, applied grammar and didactics, and the use of teaching materials (textbooks, grammars, media) in class.

#### **TUM 755 Turkish-Greek Literary Translation**

Translation from Turkish to Greek, from a linguistic point of view, presents significant problems. These difficulties are associated with the structural differences between the two languages, such as different semantic fields in the dictionary and idiomatic expressions, different systems of tense, different use of occlusion, ratio (arithmetic) and mood, as well as different structures in syntax (Subjunctive structures vs. Paratactic Structures). These structural differences will be discussed using examples of a variety of Turkish texts and their translations in Greek. In addition to linguistic skills however, the literary translator must be able to interpret meaning in relation to the cultural background of the author and his/her protagonists, such as the relationship between genders, religion or socially regulated behaviors and taboos. Finally, it is also highly important that the translator understand the specific historical period in which each literary work was produced.

#### **TUM 756 Contemporary Turkic Languages and Literatures**

This course offers an overview of developments in the modern Turkic literatures in Turkic-speaking peoples outside of Turkey, including types of oral literature and their appearance. Using literary texts, we analyze the various forms of language use, the development of independent national identities, and reflections of Islamic identity, as they appear in the national literatures of the "new" Turkic Republics, such as Azerbaijan, Uzbekistan and Turkmenistan. Most texts are available in a reformed Latin alphabet or in an alphabet based on the Latin alphabet of Modern Turkish.

## **Doctoral Programme**

The main purpose of the Doctoral Programme is the research for, and composition of, an original academic work on a subject which belongs generally to the subject of Turkish Studies. In case the candidate has not obtained a Master's degree in a relevant subject, the Doctoral Programme also contains taught classes at postgraduate level on the specific field of Turkish Studies in which the subject of the dissertation falls. If the doctoral candidate already possesses a Master's degree which the department judges to be an adequate preparation for the proposed subject of the doctoral dissertation, then the student is exempted from the taught classes.

Taught classes are followed by the research stage of the dissertation and then by the writing stage. The credits are allocated as follows:

#### **Analytical Programme for Master Holders**

Semester	Stage (research, etc.)	ECTS
	Master credit	60
1st	TOM 891 Research Level I	30
2nd	TOM 892 Research Level II	30
3rd	TOM 893 Research Level III	30
4th	TOM 894 Research Level IV	30
4th	TOM 500 Comprehensive Examination	0
5th	TOM 895 Writing Stage I	30
6th	TOM 896 Writing Stage II	30
6th	TOM 877 Presentation of final Research Proposal	0
<b>Total</b>		<b>240</b>

#### **Analytical Programme for Non Master Holders**

Semester	Stage (research, etc.)	ECTS
1st	Taught Classes	30
2nd	Taught Classes	30
3rd	TOM 891 Research Level I	30
4th	TOM 892 Research Level II	30
5th	TOM 893 Research Level III	30
6th	TOM 894 Research Level IV	30
6th	TOM 500 Comprehensive Examination	0
7th	TOM 895 Writing Stage I	30
7th	TOM 896 Writing Stage II	30
8th	TOM 877 Presentation of final Research Proposal	0
<b>Total</b>		<b>240</b>

Students can graduate by the end of the 6th semester (for MA holders) or the 8th semester (for non-holders of a Master) of their studies if they have completed the required credits (240 ECTS) and have deposited and supported their thesis in front of the Postgraduate Committee. Otherwise students will still have to be

enrolled in the next Writing levels until they are ready to submit their dissertation (the study duration must not exceed the 16 semesters).

### Research Stage

The Research Stage consists of the following:

- a) Submission of a research proposal which must include a description of the sources proposed and the methodology to be employed.
- b) Appointment of a Supervisor for each student and Dissertation Committee by the Department.
- c) Comprehensive Examination (written and oral examination). The basic fields of Turkish Studies, into one of which the dissertation's subject must fall, are the following: Ottoman History, History and Politics of the Turkish Republic, Ottoman Literature, Contemporary Turkish Literature, Turkish/Turkic Linguistics.

### Presentation of the final Research Proposal

According to the Regulations of the University of Cyprus, each postgraduate student (Ph.D. level) must present his/her Research Proposal in front of the three members of the Advisory Committee.

### Writing Stage and Examination of Dissertation

The dissertation is examined by a five-member Committee, whose members are outlined in the *Admissions and Attendance Regulations – Application Requirements*.

### Acceptance in the Doctoral Programme

- A. Those candidates who already have a Master degree must submit in their application a brief dissertation proposal which includes the sources to be consulted and the proposed methodology. Candidates must know a foreign language, preferably English, and a second foreign language would be considered an advantage.
- B. Those candidates who do not already possess a Master's degree must have a first degree either in Turkish Studies or in other fields of the Humanities, as described in the regulations for acceptance in the Master's programme. Candidates must in any case be competent in Turkish.

For more information, please refer to the *Attendance Regulations of Postgraduate Studies* or please consult the Graduate School (tel.: 22894021/44) or the Department's Secretariat (tel.: 22893950) or web page.

### Research Interests of the Academic Staff

#### • Christiane Bulut, Professor

Spoken varieties of Turkic in Iran and Iraq (Empirical Linguistics). Linguistic Contacts. Old Turkish/Ottoman. History of the Eastern Califate. Ottoman/Turkish Literature. Turkic Dialects. Minority Languages and Dialects in Cyprus.

#### • Niyazi Kızılyürek, Professor

Political History of Cyprus, Political History of Modern Turkey, Nationalism.

#### • Michalis N. Michael, Associate Professor

History of the Ottoman Empire and its Institutions; History of Cyprus in the Ottoman Period, with special emphasis on the status and role of the Church of Cyprus; the Transition from Ottoman to British Colonial Rule, especially in relation to the status and role of the Orthodox Church; Analysis of Post-Ottoman Cypriot Historiography on the Ottoman Period.

#### • Börte Sagaster, Associate Professor

The Transition from Late Ottoman to Modern Turkish Literature; Modern Turkish Literature; Identity and Society in Turkish Literature; Memoirs in Turkish Literature.

#### • Theocharis Stavrides, Associate Professor

Early Ottoman History; Ottoman Civilization; History of Cyprus in the Ottoman Period, with special emphasis on Society and Culture.

### Contact Details

#### Programme Coordinator

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#### Department Secretariat

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# Faculty of Letters

## DEPARTMENTS

Byzantine and Modern Greek Studies

Classics and Philosophy

History and Archaeology

Postgraduate Prospectus 2017-2019

# Department of Byzantine and Modern Greek Studies



*The Department of Byzantine and Modern Greek Studies covers the fields of Byzantine Philology, Modern Greek Studies, Comparative Literature, Theory of Literature and Linguistics.*

*The Department offers:*

- *A Postgraduate Programme in Modern Greek Studies, and*
- *A Postgraduate Programme in Byzantine Studies (in collaboration with the Department of History and Archaeology)*

## **Introduction**

Both postgraduate programmes of the Department are offered at two levels: a Master Degree and a Ph.D. Degree. The main focus of the postgraduate programme in Modern Greek Studies is the in-depth examination of Modern Greek literature texts from the 11th century to the present. In this context, the programme offers seminars in a number of related areas (i.e., Comparative Literature, Theory of Literature, Linguistics, History of Art and Theatre Studies) with the aim of encouraging interdisciplinary approaches. The Inter-departmental Postgraduate Programme in Byzantine Studies similarly aims at promoting an interdisciplinary approach in the broader field of Byzantine Studies.

The Postgraduate Programme in Modern Greek Studies, at the Master and Ph.D. levels, was launched in 1999. The Interdepartmental Programme in Byzantine Studies at the level of Master Degree started in September 2007.

Among the Department's immediate priorities are: (a) to develop postgraduate programmes in all the academic fields of the Department and (b) to establish stronger links with postgraduate programmes of other departments of the University of Cyprus, as well as with other European Universities.

To this end and in order to promote interdisciplinary research in the framework of postgraduate programmes, the Department framework runs exchange programmes with important departments in other European Universities.

## **INTERDEPARTMENTAL POSTGRADUATE PROGRAMME IN BYZANTINE STUDIES**

(See relevant pages)

## **MODERN GREEK STUDIES**

The Programme at both levels (M.A. and Ph.D.) offers students the following specialisations:

- (a) History of Literature - Grammatology (critical editions of Modern Greek literary texts, Metrics, archival research, etc.)
- (b) Theory of Literature (analyses and explanatory approaches to texts on the basis of generally established theoretical principles and types, e.g.,

literary genres, the rhetorical and narrative organisation of literary texts, the readers' reception of the text, etc.)

- (c) Literary Criticism (history and theoretical principles of Modern Greek literary criticism)
- (d) Comparative Literature (approaches based on comparing national literatures in terms of concepts such as influence, the readers' reception of the text, analogy, etc.)

## A) M.A. in Modern Greek Studies

### Number of Students

Twelve, including Ph.D. students.

### Admission Requirements

1. B.A. in Modern Greek Literature or related subject (upper second-class honours minimum) and detailed list of courses taken during undergraduate studies
2. Brief Curriculum Vitae and a report on academic and research interests
3. Two reference letters
4. Written or oral examination in: a) Modern Greek Literature, b) one foreign language
5. Interview with the programme's postgraduate committee.

### Course Duration

Four semesters for the full-time programme. With the approval of the supervisor the course duration may extend to four more semesters.

### Academic Requirements

1. Completion of 120 ECTS, of which:
  - 60 ECTS are obtained through successful attendance of the postgraduate seminars (10 ECTS correspond to each seminar)
  - 30 ECTS with the completion of the dissertation
  - 20 ECTS by attending the programme's Colloquium (lecture series)

*Regarding the Colloquium, see point 4 in the Structure of the Programme.*

2. Viva on the M.A. dissertation

### Analytical Programme of Studies

	ECTS
<b>First Semester</b>	
Completion of two postgraduate Seminars	20
Colloquium I	5

### Second Semester

Completion of two postgraduate Seminars	20
Colloquium II	5

### Third Semester

Completion of two postgraduate Seminars	20
Colloquium III	5

### Fourth Semester

Writing of the M.A. dissertation under supervision and defending it before a three-member examination committee	40
Colloquium IV	5

## Programme Structure

1. Postgraduate seminars cover five periods:

### A. 11th – 14th centuries (codes: BMG 641-650)

This unit examines the vernacular production of the transition period, from the end of the Byzantine era to the rise of Modern Greek Literature. Topics of interest include: the evolution of the Greek language, but mainly the Literaricity of the Poetic-epic, and Satiric Production of the 11th – 12th c. (Digenis Akritas, Ptochoprodromos); Allegoric Poetry (Logos Parigoritikos, Istoría ton Tetrapodon Zoon); The Romances (Livistros and Rhodamne, Kallimachos and Chrysoroi, Imperios and Margarona) and other historical narratives (Istoría Velissariou, Diegesis Achilleos). Acritic songs are also examined while special attention is given to the early period of Cretan literature, and poets such as Stephanos Sachlikis and Marinos Falieros.

### B. 15th – 17th centuries (codes: BMG 651-660)

This unit begins with the Fall of Constantinople and ends with the Fall of Crete (1669). It examines literary production in those regions of Greece under Latin and Franc occupation. Topics of interest include: The Medieval-renaissance Literature of Cyprus (from the Chronicle of Leontios Machairas to Rimes Agapis) and the Literature Production of Crete from the Early Renaissance (Bergadis' Apokopos) to the period of the 'Cretan bloom' (Erotokritos, Thysia to Avraam, Erofilis, etc.). This period also includes the examination of medieval folk songs (Arodafnousa, Rizitika, etc.).

### C. 18th – 19th centuries (codes: BMG 661-670)

This unit examines the texts of the Greek Enlightenment (1750-1821), paying particular attention to the prose writings of E. Voulgaris, R. Ferraios, I. Moisioudax, D. Katartzis, A. Koraes, and the poetic production of I. Vilaras and A. Christopoulos. This unit also includes Folk (Klephtic) Poetry, the School of the Ionian Islands (1800-1860), the poetic works of A. Kalvos, D. Solomos and A. Valaoritis, the First School of Athens (1830-1880), the poetic production of the Second Athenian School (Generation of the 1880s) and especially the work of K.

Palamas, the historical novel, the first period in the production of prose narratives (1830-1880), and, finally, the ethnographic short stories of the 1880s-1900s (Papadiamantis, Vizyenos, Karkavitsas). This unit also includes the study of Medieval Cypriot demotic songs ("Arodaphnousa" etc.).

#### **D. 20th – 21st centuries (codes: BMG 671-680)**

This unit examines the literary innovations of the 1920s and 1930s, as reflected in the works of representative authors of the relevant generations. It also examines the post-war production, up to the present day. Topics of special interest include: Interwar Fiction (D. Voutiras, K. Chatzopoulos, K. Theotokis, K. Paroritis, etc.), the poetic work of A. Sikelianos, N. Kazantzakis, and the 'Generation of the 1920s' (K. Karyotakis, T. Agras, N. Lapathiotis, etc.), the poetry of C.P. Cavafy, Greek modernism (Seferis, Elytis, Ritsos, Montis), Greek Surrealism (N. Kalas, A. Empeirikos, N. Engonopoulos), the novels of the 1930s generation, Post-war Poetry (T. Sinopoulos, M. Anagnostakis, M. Sachtouris, G. Pavlopoulos, T. Pieridis, P. Michanikos and others), post-war prose (S. Tsirkas, D. Hatzis, Y. Ioannou, etc.), Contemporary Poetry (L. Poulis, M. Ganas, K. Charalampides) and Prose (S. Dimitriou, R. Galanaki, V. Gourogiannis).

#### **E. Methodology (codes: BMG 681-690)**

This unit examines issues that relate to the methodological field (Historiography-Theory-Criticism-Comparative Literature) of literary practices. The seminars in this unit primarily explore the theories and the methods hitherto applied to the interpretation and analysis of literary texts, placing particular emphasis on their application to the study of Modern Greek literary texts.

2. Students may attend seminars in each period depending on the offered seminars; however no more than three seminars in a single unit may be selected.
3. In consultation with the director of the postgraduate programme, students may attend seminars offered in other postgraduate programmes within the Department or within the Faculty of Letters.
4. In parallel with the seminars, the Department runs regular research meetings (Colloquia), where members of staff, Ph.D. students and invited speakers present their research. Attendance and participation in the Colloquium are mandatory.
5. The M.A. dissertation in Modern Greek Studies carries the course code BMG 695.

## **B) Ph.D. in Modern Greek Studies**

### **Course Duration**

The course duration may not exceed eight academic years. The Ph.D. dissertation may be submitted only after the sixth semester from the start of the programme.

### **Admission Requirements**

The admission requirements for the Ph.D. programmes are the same as those for the Master's programmes (see relevant paragraph above). In addition, the Department requires the following:

1. Postgraduate Degree (M.A./D.E.A. etc.) in Modern Greek Studies
2. A copy of M.A. Dissertation
3. Examination in one foreign language (where this is deemed necessary)

### **Academic Requirements**

1. A comprehensive oral examination before a three-member examination committee, prior to the sixth semester. Candidates are examined in grammatological, methodological and theoretical subjects
2. Presentation and approval of the dissertation proposal prior to the sixth semester
3. Attendance of the Departmental Colloquia
4. Submission and approval of the Ph.D. dissertation

For more information on the academic requirements, see the *Admission and Attendance Regulations – Application Requirements* or, consult the Graduate School (tel.: 22894021/44) or the Department's Secretariat.

### **Additional Information on the Postgraduate Programmes**

The students in both the M.A. and the Ph.D. programmes are encouraged to spend part of their studies abroad, so that they have the opportunity to work in specialized research libraries. For that purpose the Department of Byzantine and Modern Greek Studies has established a wide network of cooperation and exchange programmes (ERASMUS) with related postgraduate programmes in Byzantine and Modern Greek studies and Comparative Literature at Greek and other European Universities.

### **Research Interests of the Academic Staff**

#### **• Panagiotis Agapitos, Professor**

Byzantine erotic verse romances, rhetoric and poetry in Byzantium, Imperial Ideology, Cultural History of the Middle Ages, Byzantine music, the history of manuscripts, textual criticism.

• **Yoryia Agouraki, Assistant Professor**

Syntactic Theory, Comparative Syntax as well as the interfaces between Syntax and the other branches of Theoretical Linguistics, namely Phonology, Morphology and Semantics.

• **Aphrodite Athanasopoulou, Assistant Professor**

Modern Greek Literature (from the literature of the Cretan heyday to the post-World War II generation) with a focus on 19th and 20th-century literary production and criticism. More specifically: Greek Romanticism – Heptanesian and Athenian Schools – with a focus on the oeuvre of Dionysios Solomos, the Greek language question (from the Enlightenment onwards), Realism in prose (Greek and European), Greek Modernism with a focus on the 1930s generation. Also: Literary Theory with a focus on topology and narratology, methods and approaches to teaching literature, relationship between history and literature (19th-century historical poetry – historical novel, the historical Cavafy, the post-World War II generation).

• **Julia Chatzipanagioti-Sangmeister, Associate Professor**

Modern Greek Literature from the 18th until the early 20th century, Travel Literature (Greek and European), edition of manuscripts, Comparative Literature, Cultural History of the 18th and 19th centuries, and bibliography.

• **Stavroula Constantinou, Associate Professor**

Her research interests include hagiography, Byzantine literary genres, poetics, performance, narrative and feminist approaches, the body in Byzantine literature and culture and the literary image of the Other.

• **Antonia Giannouli, Associate Professor**

Byzantine Theological Literature, in particular religious poetry, hymnography and their commentaries, the history of the theological commentaries and homiletical texts; Byzantine Lexicography, Prosopography and the critical edition and study of texts.

• **Martin Hinterberger, Professor**

Late-Byzantine Literature, in particular Hagiography as well as Vernacular Literature, the History of Medieval Greek, Byzantine Autobiography, the Cultural history of Byzantium, especially the topic of "Envy", the Edition and study of Byzantine documents, in particular the documents of the Patriarchal Archives of Constantinople.

• **Marilena Karyolemou, Associate Professor**

Language policy and language planning, Language attitudes, Sociolinguistics, Dialectology.

• **Marianne Katsoyannou, Associate Professor**

Theoretical linguistics research with the description of the varieties of the Greek language as main application field, language engineering with emphasis on issues of translation, lexicography and terminology.

• **Michalis Pieris, Professor**

Modern Greek Language and Literature, particularly Demotic Songs, Medieval and Renaissance Cypriot Literature (Leontios Machairas, Cypriot Canzoniere of the 16th century), Cretan Renaissance Literature (Kornaros, Chortatsis), Modern Poetry

(particularly Solomos, Cavafy, Seferis, Montis, Sinopoulos, Pavlopoulos, Charalambidis, Ganas) and Modern Greek theatre (particularly the dramaturgic approach to Modern Greek literary texts: Machairas, Kornaros, Greek Folk Songs, Vasilis Michaelides, Montis, Kavafis).

• **Marinos Pourgouris, Assistant Professor**

Modern Greek and Comparative Literature (with an emphasis on Modernism); Literary Theory, particularly the critique of Poststructuralism; Psychoanalytic Criticism, Postcolonial Theory and Philosophy; Cultural History (concentrating on the Balkans and the Mediterranean).

• **Alexandra Samuel, Associate Professor**

European Modernism and Literary Avant-garde, Modern Greek Literature of the 19th and 20th centuries in relation to the European Literature of the same period, History of Modern Greek Criticism.

• **Pantelis Voutouris, Professor**

Modern Greek Literature and criticism of the 19th and 20th centuries.

## Contact Details

### Programme Coordinators in Byzantine Studies

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# Department of Classics and Philosophy



*The aim of the programme is the study and the solid specialization in the following areas: Ancient Greek Philology, Latin Philology, Comparative Study of Classical Texts, Ancient Greek Dialectology and other pertinent disciplines such as Epigraphy, Papyrology and Greek and Latin Paleography. The second cycle (first postgraduate) lasts two years and leads to a Magister Artium (M.A.), and the third cycle (second postgraduate) leads to a Doctor of Philosophy Degree (Ph.D.) and lasts three years.*

## **General Principles and Characteristics of the Programme**

The Department offers postgraduate programmes at the M.A. and Ph.D. levels. The programmes are founded on the general principle of the unity of Classical Studies and have been designed to offer a well-grounded specialization in Ancient Greek Studies, Latin Studies, or the Comparative Study of Classical Literature. In the context of great and significant developments in Classical Studies in the international academic community, which makes the offer of high level specialization courses more than imperative, the Department has put together a curriculum of carefully designed Postgraduate Seminars which reflect the particular research interests of the Academic Staff members, who are personally and intimately involved in the organisation and instruction. Moreover, visiting scholars complement and enrich the Programme. This allows the postgraduate students to choose from a wide range of courses and methodology options, and contributes to the development of an environment of support and constructive criticism, which is necessary for the attainment of academic standards.

## **Admission Requirements and Procedures**

### **Admission Requirements for the Master's Programme**

- A. B.A. degree in Classics or a related field from a recognized University.
- B. Good knowledge of one of the languages internationally used in Classics, preferably English.
- C. Two reference letters from the Academic Faculty of Classics or a related field. Candidates holding a B.A. Degree from the Faculty of Letters of the University of Cyprus are exempted from this obligation.
- D. Any other additional qualifications held by the candidate, such as other degrees, will be evaluated on an individual basis.

### Admission Procedure for the Master's Programme

Candidates fulfilling the formal requirements are admitted to the programme as follows:

- A. Holders of a B.A. Degree from the Faculty of Letters of the University of Cyprus with "First class Honours" are admitted on the basis of their application file.
- B. Holders of a B.A. Degree in Classics with a grade of 7 (seven) and above are admitted on the basis of their application file.
- C. Candidates who do not fall into the above categories A or B, may be invited by the Department's Postgraduate Programmes Committee for an interview or might be asked to take a written examination in the subject area of the Programme.

Students admitted to the Programme are subject to the general Postgraduate Studies Regulations.

A Research Advisor from the Academic Staff of the Department will be appointed to each student that has been admitted to the Programme.

### Admission Requirements for the Ph.D. Programme

- A. A Master Degree in Classics or a related field from a recognized University.
- B. Good knowledge of at least two of the languages internationally used in Classics.
- C. Two reference letters from the Academic Faculty of Classics or a related field.
- D. Additional qualifications will be taken into consideration as appropriate.

The Department's Postgraduate Programmes Committee examines the candidate's application file and according to their decision may invite him or her to an interview.

### Postgraduate Degrees

The Department offers a postgraduate programme at two levels, which lead to the following degrees:

1. Magister Artium (M.A.)
2. Doctor of Philosophy (Ph.D.)

#### M.A. (MAGISTER ARTIUM) PROGRAMME

In order to obtain a Magister Artium Degree, the following qualifications are required: full attendance at the Postgraduate Seminars for a minimum period of three semesters, successful completion of at least 120 ECTS and writing a thesis. The thesis must be 60-100

pages long (A4 paper size, 1.5 line spacing), demonstrating the students' ability in methodical treatment of a given subject, judicious use of ancient sources as well as secondary literature, originality of ideas and scholarly presentation of results.

A. Postgraduate Seminars offered within the programme will be structured around the following areas of Classical Studies:

1. Ancient Greek Literature
2. Latin Literature
3. Comparative Study of Greek and Latin Literature
4. Text Criticism and Editorial Technique as applied to Classical Texts
5. Auxiliary Disciplines of Classical Studies (Greek and Latin Palaeography, Papyrology, Epigraphy)
6. Ancient Greek Dialects
7. History of the Latin Language
8. Political Thought of the Ancient Greeks and the Romans
9. Interpretative Approaches to Classical Texts
10. Issues in the Translation of Ancient Greek and Latin Texts
11. Classical Survivals in Modern Literatures
12. History of Classical Scholarship

B. The range of seminars offered is meant to enable postgraduate students to select such courses depending on the orientation of their research interests and will assist them in building their own research profile in order to finally compose their thesis.

C. In special cases a part of the ECTS credits required may be acquired by successful participation in undergraduate seminars offered by the Department. A part of the ECTS credits may also be obtained through successful participation in postgraduate seminars at other recognized Universities within the framework of student exchange programmes. Students' mobility will be encouraged and facilitated.

It is recommended that one of the two courses in Historical Linguistics (AGL) covers the area of Greek or Latin Epigraphy.

Depending on the orientation of their research, postgraduate students will be able to select and attend those Postgraduate Seminars that are of interest to them

and that will assist them in building a scholarly profile and writing the required essays.

## Courses Offered

### First Semester

(3 Courses x 9 ECTS = 27 ECTS)

AGP I 6 . .

LAT I 6 . .

AGL I 6 . .

### Second Semester

(3 Courses x 9 ECTS = 27 ECTS and the commencement of the work on the M.A. Thesis [search for bibliography] = 6 ECTS, Total: 33 ECTS)

AGP II 6 . .

LAT II 6 . .

AGP 690 M.A. Research I (6 ECTS)

HIS ..., ARC ..., BMG ...

### Third Semester

(2 Courses x 9 ECTS = 18 ECTS and continuation of the writing of the M.A. Thesis = 12 ECTS, Total: 30 ECTS)

AGP 601 Papyrology

AGL II 6 . .

AGP 691 M.A. Research II (12 ECTS)

### Fourth Semester

M.A. Thesis (30 ECTS)

### Grand Total: 120 ECTS

(Credits from 8 three-hour long courses = 72 ECTS)

(Credits from M.A. Thesis = 48 ECTS)

## Ph.D. PROGRAMME

### Requirements

For the completion of the doctoral programme the following are required: successful completion of at least 240 ECTS from the doctoral programme including the successful completion of the Thesis.

The successful completion of the comprehensive examination by – at the latest – end of the fifth semester is a prerequisite for the defence of the thesis.

The 240 ECTS workload that leads to the completion of the Ph.D. consists of graduate level courses, participation in seminars and conferences organised by the Department, and the completion of the thesis.

Candidates who already hold an M.A., M. Phil. or equivalent degree from another university will be called for an interview before a three-member committee consisting of members of the Programme's teaching staff in order to demonstrate their scholarly competence and their ability to enter the Programme.

## Doctoral Thesis

The proposal for a doctoral (Ph.D.) thesis must be presented before a three-member committee consisting of members of the Programme's teaching staff. Successful applicants must subsequently write an original thesis which should contribute substantially to their respective fields of research. The degree is awarded after the successful defence of the thesis before a five-member board.

## Research Interests of the Academic Staff

### • Demokritos Kaltsas, Associate Professor

Papyrology, Ancient Epistolography, Lexicography, Atticism.

### • Anna Panayotou - Triantaphyllopoulou, Professor

Syllabic scripts of the Greek-speaking world, Greek alphabets and dialects, Koine Greek, the Greek inscriptions of Macedonia and Cyprus and the Cypriot dialect (ancient, medieval and modern).

### • Antonios Tsakmakis, Associate Professor

Archaic Lyric Philosophy and Political Theory of the 5th and 4th centuries B.C., Aristophanes, Greek Historiography, the History of Classical Scholarship, Computer Applications in Classical Studies.

### • Spyridon Tzounakas, Associate Professor

Neronian Literature, Roman Epic, Roman Satire, Latin Historiography, Latin Elegy, Cicero's Orations, Roman Epistolography, Roman Stoicism.

### • Georgios A. Xenis, Associate Professor

Greek Textual Criticism, Editorial Practice, Scholiasts, Grammarians, Ancient Literary Criticism, History of Classical Scholarship, Teaching Ancient Greek in Secondary Education: Methodological Issues.

### • Maria Ypsilanti, Assistant Professor

Epigram, Poetry of Hellenistic Period and Late Antiquity, Tragedy, Textual Criticism.

## Contact Details

### Programme Coordinator

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# Department of History and Archaeology

*The Department of History and Archaeology encompasses the disciplines of History and Archaeology/Art History. Its chief aims are teaching and academic research in those fields. Since its establishment in 1992, the Archaeological Research Unit (A.R.U.) has been operating as a centre of archaeological study. It has been functioning as part of the Department since 1996.*

*The Department offers the following postgraduate programmes:*

- *Field Archaeology on Land and Under the Sea (Master)*
- *Mediterranean Archaeology: from Prehistory to Late Antiquity (Master and Ph.D.)*
- *Ancient History (Master and Ph.D.)*
- *Cultural Heritage Management (Ph.D.)*
- *Traditional Culture (16th - 20th c.) (Ph.D.)*
- *Modern and Contemporary History (19th-20th centuries) (Master and Ph.D.)*
- *Interdepartmental postgraduate programme in Byzantine Studies in association with the Department of Byzantine and Modern Greek Studies (Master and Ph.D.)*

## Research Activity

The Department has inaugurated research programmes and projects which postgraduate research assistants and postgraduate students participate in. Their goal is original research, with special emphasis on Cyprus in relation to the rest of the Greek world and the Eastern Mediterranean.

For information on the research programmes of the Department faculty visit the Department of History and Archaeology and the Archaeological Research Unit websites ([www.ucy.ac.cy/hisarch-en](http://www.ucy.ac.cy/hisarch-en), [www.ucy.ac.cy/hisarch/aru-en](http://www.ucy.ac.cy/hisarch/aru-en) respectively).

## POSTGRADUATE PROGRAMME IN MEDITERRANEAN ARCHAEOLOGY: FROM PREHISTORY TO LATE ANTIQUITY

The objective of the programme is the study of the Archaeology, History and Culture of the Mediterranean region from Prehistory to Late Antiquity. The members of the Academic Staff of the Department of History and Archaeology in the following specializations participate in the programme as instructors and academic advisors:

- Prehistoric and Protohistoric Archaeology
- Environmental Archaeology and Archaeometry
- Archaeology of the Geometric, Archaic and Classical Periods
- Hellenistic and Roman Archaeology
- Ancient History and Epigraphy
- Folk Art and Architecture

## Programme Leading to a Master of Arts Degree

### Programme Structure

For the postgraduate programme leading to the acquisition of a Master of Arts Degree in Mediterranean Archaeology: from Prehistory to Late Antiquity, 120 ECTS must be completed, as follows: Course work, equal to 80 ECTS, and a master's thesis, equal to 40 ECTS (see requirements for a master degree).

Postgraduate students choose eight courses (each course equals 10 ECTS) from the following thematic units which are offered on a two-year cycle:

ARC 700 - ARC 709 The Mediterranean in Early Prehistory  
 ARC 710 - ARC 719 The Mediterranean in the 3rd millennium B.C.  
 ARC 720 - ARC 729 The Mediterranean in the 2nd millennium B.C.  
 ARC 730 - ARC 739 The Mediterranean in the Iron Age  
 ARC 740 - ARC 749 Art: Production and circulation (Architecture, Sculpture, Ceramics, Minor Arts, etc.) of the Geometric, Archaic and Classical Periods  
 ARC 750 - ARC 759 Topography of the main centres of Classical antiquity (urban centres, necropoleis and sanctuaries)  
 ARC 760 - ARC 769 Art: Production and circulation (Architecture, Sculpture, Ceramics, Minor Arts, etc.) of the Hellenistic and Roman Periods  
 ARC 770 - ARC 779 Topography of the main centres of Hellenistic and Roman Antiquity (urban centres, necropoleis and sanctuaries)  
 ARC 780 - ARC 789 Protection, Preservation and Management of Cultural Heritage  
 ARC 790 - ARC 799 Theoretical Archaeology, Methodology, Archaeometry and Environmental Archaeology: The directions of modern research  
 ARC 800 - ARC 809 Ancient Technology (Ceramics, Metal, Stone, Glass, etc.)  
 HIS 700 - HIS 709 Ancient Greek and Roman History: The directions of modern research  
 HIS 710 - HIS 711 Ancient Greek and Latin Epigraphy

Full-time postgraduate students must take three of the above courses in the first semester of their studies and three in the second. In the third semester they must take two of the offered courses and also the compulsory course ARC 810 "Preparation and writing of a master's thesis I" (10 ECTS). In the fourth semester postgraduate students continue and complete the master's thesis ARC 811 "Preparation and writing of a master's thesis II" (30 ECTS).

## Programme of Studies

### First Semester

ARC 720 The Mediterranean in the 2nd millennium B.C.  
 ARC 740 Art: Production and circulation (Architecture, Sculpture, Ceramics, Minor Arts, etc.) of the Geometric, Archaic and Classical Periods  
 ARC 760 Art: Production and circulation (Architecture, Sculpture, Ceramics, Minor Arts, etc.) of the Hellenistic and Roman Periods

### Second Semester

ARC 700 The Mediterranean in Early Prehistory  
 ARC 790 Theoretical Archaeology, Methodology, Archaeometry and Environmental Archaeology: The directions of modern research  
 HIS 702 Documents of the Hellenistic and Roman Periods in the Eastern Mediterranean

### Third Semester

ARC 730 The Mediterranean in the Iron Age  
 ARC 750 Topography of the main centres of Classical antiquity (urban centres, necropoleis and sanctuaries)  
 ARC 770 Topography of the main centres of Hellenistic and Roman antiquity (urban centres, necropoleis and sanctuaries)  
 HIS 711 Inscriptions of Cyprus  
 ARC 810 Preparation and writing of stage I of the Master's Thesis (offered only to 3rd semester students and is compulsory)

### Fourth Semester

ARC 710 The Mediterranean in the 3rd millennium B.C.  
 ARC 780 Protection, Preservation and Management of Cultural Heritage  
 ARC 800 Ancient Technology (Ceramics, Metals, Stone, Glass, etc.)  
 ARC 811 Preparation and writing of stage II of the Master's Thesis (offered only to 4th semester students and is compulsory)

## Prerequisites for Admission to the M.A. Programme

1. Candidates must be:

- Graduates of the Department of History and Archaeology of the University of Cyprus or the Departments of History and Archaeology of Greek universities.
- Graduates of the Department of Classical Studies and Philosophy of the University of Cyprus or equivalent departments of Greek universities.
- Graduates of Departments of Archaeology and/or Classical Studies of recognized universities.
- Graduates with a degree in related fields of research (History, History of Art, Architecture, Anthropology, or other disciplines that have applications in Archaeology, such as Geology, Physics and Chemistry) from recognized universities.
- Graduates of the School of Letters with a minor degree in History and Archaeology.

2. The Committee of the above programme will examine on their own merit applications from candidates who do not have a degree in Archaeology or History.

3. Graduates of the University of Cyprus and Greek universities must have an undergraduate diploma with a cumulative grade of 7.5/10.0 or higher. The equivalent is required for candidates who have graduated from other universities.

4. Candidates who meet the above requirements will be called for an interview and/or a written exam. They must also pass written exams in one of the main European languages (other than their mother tongue), namely English, French, German, Italian, Spanish.

5. Greek is the official language of instruction and for writing the master's thesis.

### Submission of Application

Applications must be submitted to the Department's postgraduate programme coordinator within the announced deadlines.

For information on application/ admission procedures and requirements, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department's Secretariat.

In addition to the general requirements, candidates must also include the following in their application: a) two undergraduate essays on archaeological themes, or, in the case of applicants who fall under categories 1(a), 1(b) and 1(c), two undergraduate essays on related themes and b) certificates proving good knowledge of a foreign language.

### Doctor of Philosophy Degree

#### Prerequisites for Admission to the Ph.D. Programme

1. Candidates must have a postgraduate degree from a recognized university, in Archaeology or in a related field (History of Art, Architecture, Anthropology and other subjects that have applications in Archaeology, such as Geology, Physics and Chemistry).
2. Candidates who meet the above requirements will be called for an interview. They must also pass written exams in two of the main European languages (other than their mother tongue), namely English, French, German, Italian, Spanish.

### Submission of Application

Applications must be submitted to the Department's postgraduate programme coordinator within the announced deadlines (please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School, tel. 22894021/44 or the Department Secretariat).

In addition, applications must include: a) a copy of the M.A. thesis and copies of published articles, if any, b) certificates proving good knowledge of two foreign languages and c) statement regarding the research topic for the Doctoral Dissertation.

### Contact details

#### Programme Coordinator for GSP

George Papasavvas

Tel.: 22893566

E-mail: georgep@ucy.ac.cy

### POSTGRADUATE PROGRAMME IN ANCIENT HISTORY (MASTER)

The programme focuses on the in-depth study of Ancient Greek History, Roman History, and Ancient Cypriot History. The study of these subjects is confined within the geographical limits of the Mediterranean region and the Near East.

The postgraduate programme leading to the Master degree in Ancient History requires 120 ECTS as follows:

- 80 ECTS in eight courses (8 X 10)
- 40 ECTS for the Master's thesis.

The duration of the programme is two years (four semesters); the fourth semester is devoted to writing the Master's thesis.

Of the eight courses required for the Master degree, six courses must be taken from the following thematic units:

- Ancient Greek History-East
- Phoenicians-History and Culture
- Roman History-East,
- Late Antiquity-East
- History of Ancient Cyprus
- Epigraphy

The remaining two courses are electives to be chosen from similar postgraduate programmes of the University of Cyprus. These may include, but are not limited to:

- Mediterranean Archaeology
- Classical Philology
- Byzantine Studies (see relevant pages)

#### Prerequisites for Admission to the Programme

Each year the Department of History and Archaeology admits eight postgraduate students.

Candidates must be:

- Graduates of the Department of History and Archaeology at the University of Cyprus or equivalent departments at other universities.
- Graduates of the Department of Classical Studies at the University of Cyprus or equivalent departments at other universities.

Applications must be submitted to the Secretary of the Department of History and Archaeology prior to the announced deadline. Applications must include the following:

1. Curriculum Vitae
2. Short essay on the scholarly and research interests of the candidate
3. Two letters of recommendation from university professors or research institutions

Candidates who meet these criteria will be invited for an interview.

### **POSTGRADUATE PROGRAMME IN ANCIENT HISTORY (DOCTORATE)**

Each year the Department of History and Archaeology admits four doctoral students.

Candidates must have a postgraduate degree (Master) from the University of Cyprus or from another recognized university in Ancient History, Classical Archaeology (or in Mediterranean Archaeology from the University of Cyprus).

Applications must be submitted to the Secretary of the Department of History and Archaeology prior to the announced deadline. Applications must include the following:

1. Curriculum Vitae
2. Short essay (about three pages) on the proposed Ph.D. research topic
3. Certificate(s) attesting to the good knowledge of a foreign language
4. Publications (if applicable)
5. Two letters of recommendation from university professors or research institutions

Candidates who meet these criteria will be invited for an interview.

#### **Contact details**

##### **Programme (Master and Doctoral) Coordinator**

Theodoros Mavroyiannis

##### **Secretary of the Department of History and Archaeology**

Tel.: 22892180

E-mail: isa@ucy.ac.cy

### **POSTGRADUATE PROGRAMME IN TRADITIONAL CULTURE (16th – 20th CENTURY)**

The aim of the programme is the specialized study of the various aspects of traditional culture, as it developed from the 16th century to the present. Within the framework of the local political, economic and social history, and with Cyprus as the main focus, the courses and research work will focus on the comparison of Cypriot culture with that of the wider area of the Mediterranean and Southeastern Europe. The programme will offer postgraduate students the knowledge and research methods that will enable them to contribute to a better understanding of the elements that compose the mosaic of traditional culture.

### **Doctor of Philosophy Degree**

#### **Prerequisites for Admission to the Ph.D. Programme**

1. Candidates must hold an M.A. degree in a field related to Traditional Culture (Ethnography, Folk Art, Folklore, Ethnology, Social Anthropology, etc.) from a recognized university. Candidates whose M.A. degree is in another field but who fulfil all the criteria of the programme may also apply.
2. Good knowledge of the English language is required. The knowledge of a second European language will be considered an added desirable qualification.
3. The number of places is determined each year.

#### **Submission of Application**

Applications must be submitted to the Department's Postgraduate Programme Coordinator within the announced deadlines. The applications must include the following:

- (a) Analytical transcript of first degree
- (b) Copy of M.A. degree or confirmation of imminent completion, or confirmation of registration in a Ph.D. programme of another recognized university
- (c) Analytical transcript of M.A. degree
- (d) Short Curriculum Vitae
- (e) A copy of the M.A. thesis
- (f) Certificate proving the good knowledge of the English language
- (g) Reference letters from two university professors
- (h) Statement of scholarly and research interests

## Contact Details

### Programme Coordinator for GSP

Euphrosyne Rizopoulou-Egoumenidou

Tel.: 22893562

E-mail: aregoume@ucy.ac.cy

## POSTGRADUATE PROGRAMME IN MODERN AND CONTEMPORARY HISTORY (19th-20th CENTURY)

### Master Degree

The aim of the programme is to offer specialized study of Modern Greek and European History (since the 19th c.), and highlight its connection with the history of the wider area of the Mediterranean and Southeastern Europe; and to map the course of Cyprus and its political and cultural relations with the broader European world.

The personnel teaching in the programme comprises the Academic Staff appointed to the Department of History and Archaeology, in the following specialized areas:

- Modern Greek History
- Contemporary Greek History
- Modern European History
- Contemporary European History

The same members of staff will also act as academic advisors to the students.

Additional teaching can also be offered by Visiting Academic Staff and Short Term Visiting Academic Staff in the above specializations. Academics of other departments of the University may also offer classes following the Department's invitation.

### Organization of the Programme

The postgraduate programme consists of three elements:

- I. Taught Courses
- II. Independent study, attendance and participation in the Colloquium
- III. M.A. dissertation

Students have to fulfil successfully all three elements of the programme in order to obtain the M.A.

#### I. Courses

The taught element of the programme is organized around groups of courses. Every candidate has to attend seven courses, four of which have to be from two different categories. The remaining three courses have to be selected, a) from courses which belong to the categories that have already been selected, b) from courses from other categories of courses, c) up to two

courses may be selected from the postgraduate programmes of other Departments of the Faculty of Letters. At the suggestion of the Coordinator of the Postgraduate Programme and with the approval of the Council of the Department, one of the two courses may be selected from a postgraduate programme outside the Faculty of Letters.

The categories of courses and the courses which will be offered are:

#### Category A: History of the Mediterranean Area in the Modern and Contemporary Period

HIS 740 National movements, revolutions, irredentism and the "great idea" in Europe and the Mediterranean basin (19th-20th c.)

HIS 761 Navigation in the Mediterranean - shipping lanes of the Mediterranean

HIS 781 British Colonialism and the Eastern Mediterranean

#### Category B: History of Cyprus (19th-20th c.) – Cypriot Studies

HIS 742 Political life and conflicts in the Republic of Cyprus, 1960-1974

HIS 762 Plans for the solution of the Cyprus Problem

HIS 763 Social and Economic History of Cyprus

HIS 782 The National Movement and political parties in Cyprus during the 20th c.

HIS 783 Press, education and intellectual life in Cyprus

HIS 784 The Greek Cypriot Church and the "Enosis" issue

#### Category C: Modern and Contemporary Greek and European History

HIS 744 "Hot" conflicts during the Cold War: the Greek Civil War, the Korean war, the Vietnam war

HIS 740 National movements, revolutions, irredentism and the "great idea" in Europe and the Mediterranean basin (19th-20th c.)

HIS 785 Authoritarian regimes in Greece during the 20th c.

It is possible in the future to add new categories or to add or to replace courses in the existing categories.

#### II. Independent Study/Colloquium

A colloquium is offered as part of the programme. Postgraduate students, Ph.D. candidates, teaching staff of the postgraduate programme and visitors of the Department who present their research, participate in the meetings of the colloquium.

During the first semester students have to complete the Independent Study (graded with Pass / Fail) and to participate in the colloquium. The presentation of the Independent Study may take place during the first semester or the second semester (together with the presentation of the research proposal).

In the second semester of study all the postgraduate students present the research proposal for their M.A. dissertation at the Colloquium.

### III. M.A. Dissertation

In the third semester of studies, postgraduate students attend one course and begin work on their M.A. dissertation. The M.A. dissertation is expected to be in the region of 15.000 words.

During the fourth semester of studies, postgraduate students continue and complete their M.A. dissertation.

### Entry Criteria

1. Candidates in the Postgraduate Programme may be graduates of departments from recognized universities. Priority will be given to: graduates of departments of History, graduates of faculties of Letters, graduates of departments of Political Studies, European Studies or Turkish Studies.
2. Graduates of Greek universities and of the University of Cyprus must have a GPA of at least 7,0 and above. Equivalent grades are required from graduates of other universities.
3. A good knowledge of the English language is required. Knowledge of a second European language is considered an advantage.
4. The final decision for the admission to the postgraduate programme is taken by a committee that is appointed by the Academic Staff of the Department (Academic Staff appointed to the Department and teaching in the programme) which evaluates the candidates' applications. The Committee reserves the right to invite for an interview and/or a written examination the candidates, even if they fulfil all the criteria for acceptance.
5. The language of teaching and assessment is Greek.
6. Number of students admitted to the M.A. per year: 15.

### Study Regulations

Postgraduate studies are organized according to the Postgraduate Study Regulations of the University of Cyprus (see relevant Regulations).

### M.A. Degree Requirements

- The Department appoints an Academic Advisor for every new postgraduate student.
- The minimum period of full-time study for the M.A. is three semesters.
- Successful completion of 120 ECTS is required for the M.A. degree. These are allocated as following:

Taught Courses (7 X 9)	63 ECTS
Independent Study (1 X 3)	3 ECTS
Participation-presentation of the research proposal at the Colloquium (1 X 3)	3 ECTS
Preparation and writing of the dissertation I and Preparation and writing of the dissertation II (21 + 30)	51 ECTS
<b>Total</b>	<b>120 ECTS</b>

The programme may be offered either on a full-time or part-time basis. Students (either full-time or part-time) have to follow the programme as organized (see below). The general postgraduate study regulations are applicable as regards the general work load.

Part-time students may begin writing their dissertation after the completion of six of the seven compulsory courses of the programme.

### Suggested Programme of Studies

	ECTS
<b>First Semester</b>	
Three Courses from two categories of courses X 9 ECTS (optionally: 3 courses from one category of courses X 9 ECTS)	27
Independent study and participation in the Colloquium	3
<b>Total</b>	<b>30</b>
<b>Second Semester</b>	
Three Courses from two or three categories of courses X 9 ECTS (optionally: three Courses from a different category from the one that has been followed during the previous semester X 9 ECTS)	27
Presentation of the Research Proposal / of the Independent Study at the Colloquium	3
<b>Total</b>	<b>30</b>
<b>Third Semester</b>	
1 course from the offered categories of courses X 9 ECTS	9
M.A. Dissertation I X 21 ECTS	21
<b>Total</b>	<b>30</b>
<b>Fourth Semester</b>	
M.A. Dissertation II X 30 ECTS	30
<b>Total</b>	<b>30</b>

### Crediting ECTS from a Previous M.A. Degree

Postgraduate students who already hold an M.A. degree from a recognized university, in another discipline are entitled to request exemption from courses attended during their previous degree, for up to 15 ECTS. The Department will examine applications and if possible, the ECTS will be deducted from the work load of courses of the programme.

### Submitting an Application

Applications are submitted to the Coordinator of the Postgraduate programme during the dates the University

sets as advertised in the press and/or the University and departmental website. Applications must include the following:

- (a) Copy of the university degree or certification of forthcoming graduation
- (b) Grades for courses attended in the first and/or M.A. degree
- (c) Short Curriculum Vitae
- (d) Two undergraduate essays or published work in Modern History
- (e) Proof of good knowledge of English, and of other languages
- (f) Letters of reference from at least two Academics
- (g) Short statement (up to two pages) of research interests of the candidate and research proposal

#### Calculation of the Workload (ECTS)

The unit of credit is based on the calculation of the student workload during every semester. One ECTS unit is equivalent to 25-30 hours work per semester. Consequently, courses of 9 ECTS correspond to 225-270 hours of work, and are allocated as follows:

#### A. For Courses with Codes HIS 720 - 740 (9 ECTS)

- 3 hours of teaching X 13 weeks: 39 ECTS
- 6 hours of meetings for academic guidance: 6 ECTS
- Study time required during the semester (10 hours preparation for every course per week average, including the study and the preparation for presentations, presentation of the essay for every course, and the time for archival and bibliographical research required for the writing of the essays): 140
- Preparation and writing of the final essay for every course: 60

Total working hours per course per semester: 245

#### B. HIS 808 Independent Study/HIS 809 Colloquium (3 ECTS)

- 1,5 hours attendance X 13 weeks: 19,5
- 2 hours of meetings for academic guidance: 2,5
- Study time required during the semester (total 40 hours preparation for the independent study / the research proposal, including the study and preparation for the presentations at the course and the time of archival and bibliographic research, required for the writing of the independent study/research proposal): 40
- Preparation and writing of the independent study/research proposal for the MA dissertation: 18

Total working hours per course per semester: 80

#### C. HIS 810 Preparation and Writing of the MA Dissertation I (21 ECTS)

- Meeting with the research advisors: 26
- Research [indicatively: Locating and reviewing the existing bibliography, selection and application of the research methodology, finding primary material in archives and private collections.] Photographing material, indexing. Documentation and cross-checking information. Familiarization with software programmes (when necessary): 300

- Writing pilot parts of the dissertation: 254

Total: 580

#### D. HIS 811 Preparation and Writing of the M.A. Dissertation II (30 ECTS)

- Meeting with the academic advisors: 39
- Research [indicatively: Finding and review of existing bibliography, selection and application of the research methodology, finding primary material in archives and private collections]. Photographing material, indexing. Documenting and cross-checking of information. Familiarization with software programmes (when needed): 271

- Writing of the dissertation: 460

Total: 770

### Doctor of Philosophy Degree

#### Criteria for Admission to the Ph.D. Programme

1. The candidates must hold an M.A. degree in History from a recognized University. Candidates whose M.A. degree is in other fields (such as Political Science, European Studies or Turkish Studies) and who fulfil all the criteria of the programme, may also apply.

Candidates whose M.A. degree is in fields other than the above may also apply for a Ph.D. in the history of their specialization in Cyprus and/or the Greek World during the modern and contemporary periods. These candidates will be supervised in cooperation with the Academic Staff of the relevant departments.

2. Good knowledge of the English language is required. The knowledge of a second European language will be considered an added qualification.

Admission to the programme: A committee comprised of the permanent Academic Staff teaching in the programme will be responsible for the evaluation of the applicants. This committee reserves the right to invite candidates for an interview and/or a written examination.

#### Requirements and Organization of the Ph.D. Programme

Course attendance: Students with an M.A. degree or equivalent in Modern and/or Contemporary History or

other relevant M.A. Degree, who satisfy all the requirements of the programme, are exempted from the obligation of attending courses. Candidates may be required to attend M.A. degree programme courses, if the Department considers this necessary for the candidate's research.

Colloquia: Within the framework of the programme a cycle of scholarly meetings (colloquia) will be held. M.A. and Ph.D. students, Academic Staff and visiting Academics will participate in these meetings and present their research. Ph.D. students must present their research proposal and/or part of the Ph.D. dissertation during this cycle of meetings.

### Contact Details

#### Programme Coordinator for GSP

George Kazamias

Tel.: 22892184

Fax: 22895078

E-mail: g.kazamias@ucy.ac.cy

### POSTGRADUATE PROGRAMME IN FIELD ARCHAEOLOGY ON LAND AND UNDER THE SEA

The aim of the programme in Field Archaeology on Land and under the Sea is to provide advanced knowledge of the theory and methodology of archaeological fieldwork on land as well as under the sea, and to furnish young professionals with the requisite training to rise up to the challenges of both the public and the research aspects of archaeology. The courses on offer examine the nature, the study and the documentation of archaeological finds and sites (both landlocked and maritime), while practical field training is duly encouraged, on land, sea and in the laboratory.

The programme is offered in English and Greek and is addressed to:

- Archaeologists already working in the public sector (archaeological services or in museums), who need to optimize their professional performance in various aspects of fieldwork.
- Young archaeologists who wish to enhance their training and experience, in order to pursue a career in the public or private sector.
- Young researchers who need to expand their fieldwork activities or be trained in new / specific methods and techniques.
- Non-archaeology graduates from disciplines closely linked to archaeology, who wish to become familiar with archaeological fieldwork.

### Programme Structure

The postgraduate programme in Field Archaeology on Land and under the Sea can be completed in a minimum

of three semesters. Successful completion is predicated on the acquisition of 107 ECTS, as follows:

- By successfully attending six courses from at least four different thematic units (three courses per semester). All courses are credited with 10 ECTS.
- By completing 45 days of practical training in at least one project or institution (field survey, excavation, museum, laboratory), preferably during summer recess. This activity is credited with 17 ECTS.
- By writing a Master's thesis of 15,000 words (one semester). The thesis is credited with 30 ECTS.

### Courses on offer

The courses that are on offer as part of the postgraduate programme fall into five broad thematic units:

- 1) Archaeology of Cultural Landscapes
- 2) Maritime Archaeology
- 3) Fieldwork Methodology and Skills
- 4) Artefact Studies / Archaeological Science
- 5) Cultural Heritage Management

More specifically, the descriptions of each individual thematic unit, as well as the titles of the courses on offer per unit, are to be found below:

#### 1) Archaeology of Cultural Landscapes

Study focuses on one of the core fields of archaeology: the relationships between material culture, the human alteration of landscape, and the natural environment. This kind of holistic study presupposes a multidisciplinary approach to the analysis of settlements (cities, villages, farmsteads, and coastal settlements or installations), industrial sites and places of worship. It comprises the spatial distribution of buildings and streets within urban and rural contexts, human movement within or access to settlements and housing, and the use of settlement and domestic space. Students will acquire knowledge of identification methods, documentation, study and reconstruction of cultural landscapes throughout antiquity.

Courses on offer:

- ARC 650 Settlement Analysis and Spatial Archaeology
- ARC 651 Mediterranean Island Landscapes
- ARC 652 Introduction to Building Archaeology
- ARC 653 Sacred Landscapes in the Eastern Mediterranean

#### 2) Maritime Archaeology

Maritime cultural heritage is an indispensable part of Mediterranean archaeology. The main aim of this thematic unit is to introduce students to the specific research areas of Maritime Archaeology and to equip them with the necessary skills and methodological tools

in order to be able to conduct fieldwork on related sites, either on land or underwater. Seminars and special courses in diving, sailing and underwater photography will be offered to those interested in developing further their practical skills.

Courses on offer:

ARC 654 Coastal Landscape and Seascape  
ARC 655 Shipwreck Archaeology

### 3) Fieldwork Methodology and Skills

With this thematic unit, students will be introduced to the theory, methods and techniques of a) archaeological survey and excavation, both on land and underwater b) documentation of historic buildings. Thus, they will be given the opportunity: to examine the historiography of archaeological fieldwork; b) evaluate methods and techniques employed in Surface Survey and Excavation; to be trained in archaeological fieldwork, using both traditional methods and modern technical equipment (e.g., laying out survey grids, systematic field-walking and recording vestigial artefacts, handheld computers, differential GPS, aerial photography, related software). Courses will be divided into three levels: a) methodology, b) fieldwork on land, c) underwater fieldwork.

Courses on offer:

ARC 656 Archaeological Survey  
ARC 657 Methods and Techniques of Land and Underwater Excavation  
ARC 658 Urban Archaeology

### 4) Artefact Studies / Archaeological Science

The aim of this thematic unit is to help students gain an understanding of the theory, practice and status of artefact studies, from both an archaeological and an interdisciplinary perspective. More specifically, students will learn about the physical properties, traditional production and use of a range of materials and artefacts. They will also develop skills in handling, recording, analyzing and interpreting archaeological materials and artefacts from different periods, thus acquiring an integrated approach of artefact studies 'from excavation to publication'.

Courses on offer:

ARC 659 Scientific Analysis of Archaeological Material  
ARC 660 Ancient Technology  
ARC 661 Quantitative and Qualitative Study of Ceramics  
ARC 662 Archaeometallurgy and Metalworking Traditions

### 5) Cultural Heritage Management

The Mediterranean embraces a wealth of cultural heritage — terrestrial, coastal and underwater. This thematic unit aims to introduce students to the main concepts and relevance of cultural heritage and the

sustainable functioning systems meant to preserve and protect cultural heritage. Courses will include guest-lectures by representatives of various stakeholders in Cultural Heritage Management (CHM) such as government agencies, private cultural institutions, religious organizations, local and global heritage organizations (UNESCO, ICOMOS, ICCROM, ICCM, Europa Nostra, etc.), educators in the field of archaeology and conservation, the tourist industry, collectors, developers, and local communities. Visits to sites and museums will also form part of these courses.

Courses on offer:

ARC 663 Introduction to Cultural Heritage Management (CHM)  
ARC 664 Global Issues and Special Cases in Cultural Heritage Management  
ARC 665 Cultural Heritage Management in Conflict Areas  
ARC 666 Maritime Cultural Heritage Management

### Admission Criteria

Prospective students must have completed an undergraduate degree in Archaeology, History, Classics, Anthropology or other related fields of research (History of Art, Architecture, Geography, Geology, Physics, Chemistry, Engineering) in recognized universities.

Graduates of the University of Cyprus and universities in Greece must have an undergraduate diploma with a cumulative grade of 6.5 or higher. The equivalent is required for graduates from other universities. Applicants must speak English at a satisfactory level.

### Applications Submission

The application must be submitted to the Programme Coordinator (Dr Styliani Demesticha, demesticha@ucy.ac.cy) and must include:

- a certified copy of University degree
- Curriculum Vitae
- two letters of reference
- a short statement of personal goals and research interests (up to 650 words), written in English
- an application form

Candidates who meet the requirements will be called for an interview. Overseas applicants will be interviewed via teleconference.

### Deadlines for applications:

- 31 March (for the winter semester)
- 31 October (for the spring semester)

### Contact Details

#### Programme Coordinator

Dr Sella Demesticha

Tel.: 22 893568

E-mail: demesticha@ucy.ac.cy

### INTERDEPARTMENTAL POSTGRADUATE PROGRAMME IN BYZANTINE STUDIES

(see relevant pages)

### Contact Details

#### Programme Coordinator for the Department of History and Archaeology

Angel Nicolaou-Konnari

Tel.: 22892177

Fax: 22895078

E-mail: abeihamm@ucy.ac.cy

### Research Interests of the Academic Staff

#### • Alexander Beihammer, Professor

Analysis and Edition of Documents of Byzantine Diplomats. Diplomacy in the Byzantine State, especially diplomatic and cultural relations with the Arab world. The Institutions and Society of the Middle Byzantine Period.

#### • Natasha Constantinidou, Lecturer

History of (western) Europe, 1600-1800. History of religious and intellectual movements (the Renaissance, the Reformation, the religious wars of the 16th and 17th centuries and their implications, scientific discoveries, etc.), Intellectual History, History of Political Thought, Cultural History, History of the Book. Relationship between politics and religion, church and state, circulation of ideas, communication networks and intellectual exchanges, patronage and ideology (ideology expressed in texts, rituals and pageants, images and iconography), cultural and intellectual production of royal and religious courts, rise of the dynastic states.

#### • Stella Demesticha, Associate Professor

Maritime archaeology with focus on shipwrecks, amphorae, ancient sea routes, trade mechanisms and economy in the Eastern Mediterranean, Late Roman Pottery, Ancient and Pre-industrial Ceramic Technology.

#### • Maria Iacovou, Professor

The historical dimension of the passage from Prehistory to Protohistory. Cyprus Protohistory and the foundation of the city-kingdoms in the 11th century B.C. Ceramic typology of the Late Bronze Age and the Early Iron Age. Distribution of 11th century Cypriot pottery in the Mediterranean. Historical cartography and the topographical development of the cities in Cyprus.

#### • Maria Kantirea, Associate Professor

Greek and Latin Epigraphy. Ancient Religion, Cult of Hellenistic Rulers and Roman Emperors. Roman History: institutions of Greek cities and Roman colonies of the eastern provinces of the Roman Empire, Prosopography of the Imperial Period.

#### • Vassiliki Kassianidou, Professor

Extractive Metallurgy, Ancient Technology, Conservation of Metals, Production and Trade of Cypriot Copper in Antiquity.

#### • George Kazamias, Associate Professor

Contemporary European History (WWII, Cold War, Unification of Europe, Europeanization), History of South-Eastern Europe (19th - 20th c.), Greek Minorities, Diaspora and Refugees in the Balkans, Eastern Mediterranean and the Middle East, Oral History.

#### • Aggel Nicolaou-Konnari, Associate Professor

Hellenism under Latin rule. This mainly involves the various aspects of cultural interaction and exchanges between Greeks and Latins in Latin Greece in general and Cyprus in particular (late twelfth-seventeenth centuries) and related phenomena in the domains of language, religion, and social institutions as well as ethnicity, self-perception, and the perception of the Other. The important corpus of Cypriot historiographers (late twelfth-eighteenth centuries). A prosopographical study of the Cypriots in the Middle Ages and Early Modern Times and particularly of the Cypriots of the diaspora (sixteenth-eighteenth centuries). The place of women in Latin Greece and particularly Cyprus.

#### • Ourania Kouka, Associate Professor

Historiography of Prehistoric Archaeology in Europe and the Eastern Mediterranean. Theoretical and Methodological Approaches in Prehistory. Stone and Bronze Ages in the Aegean, Anatolia and the Eastern Mediterranean. Island Archaeology. Inter- and intra-site organisation in Prehistory. Policy, economy and society in Prehistory. Industrial installations, early metallurgy, ceramic technology in Prehistoric Aegean and Anatolia. Trade and Cultural Networks in the Balkans and the Eastern Mediterranean during the Stone and Bronze Ages.

#### • Theodoros Mavrogiannis, Associate Professor

The History of Ancient Historiography; The History of the Hellenistic and Roman East; The Monumental Topography of Greece and Italy; Ancient Religion and Epigraphy.

#### • Michalis Olympios, Assistant Professor

History of Medieval Art and Architecture (6th-16th centuries). More specifically, History of Gothic Architecture (12th-16th centuries) in Europe and the Latin East: typology, design, construction techniques, issues of patronage; ecclesiastical art in Latin Europe (altarpieces and assorted altar furnishings, liturgical vessels, etc.), monumental sculpture and small-scale carving in various media (stone, metal, ivory); History of the Crusades and Art History of the Latin East; History and Art History of Lusignan Cyprus (1192-1489).

#### • Petros Papapolyviou, Associate Professor

Contemporary Greek History (WWII: Occupation and Resistance, Civil War, Greek National Claims), Political History of Cyprus, 1878-1960 (British Rule, Enosis movement, Liberation Struggle 1955-1959, Cypriot Volunteerism).

#### • George Pappasavvas, Associate Professor

Metalwork of the Late Bronze Age and Early Iron Age, Bronze Sculpture, Sculpture of the Archaic and Classical Periods, Greek Structures, Relations between the Aegean and the Eastern Mediterranean in the Early Iron Age.

• **Maria Parani, Associate Professor**

Formation processes of Byzantine art, representation of realia, the relationship between centre and periphery in Byzantine art in Cyprus, cultural exchange in the fields of court ceremonial, dress and art, daily life in Byzantium and the exploration of alternative sources for the study of Byzantine material culture, Byzantine dress.

• **Chris Schabel, Professor**

Medieval and Renaissance Intellectual History (philosophy, theology, science and educational institutions), History of Cyprus 1191-1571, Textual Criticism, Medieval Latin Palaeography.

• **Athanasios K. Vionis, Assistant Professor**

Methodological approaches to the study of urban and rural landscapes and material culture of the Byzantine and post-Byzantine Aegean and the Eastern Mediterranean (6th-19th c. AD): the transition from Late Antiquity to the Early Middle Ages; the archaeology of death (pagans and Christians); the archaeology of identity (social, religious, ethnic); war, defence, the built environment (cities, castles, towers, rural settlements-villages) and the use of domestic space; urban and rural life-ways and economy through the sources (texts – pictorial evidence – material culture); the history and archaeology of food consumption; technology/production – distribution – use of ceramic vessels.

### Contact Details

#### Department Secretariat

Eleni Hadjistylianou

Tel.: 22892180

Fax: 22895057

[www.ucy.ac.cy/hisarch/en](http://www.ucy.ac.cy/hisarch/en)

### THE ARCHAEOLOGICAL RESEARCH UNIT

The Archaeological Research Unit (ARU) collaborates with scholarly organisations in Cyprus and abroad to realize its research objectives. In Cyprus this cooperation involves various governmental services (e.g., the Department of Antiquities and the Geological Survey Department), local authorities (e.g., the Municipality of Yeroskipou, the Community of Kouklia) and other departments of the University of Cyprus. Abroad, the ARU works with scholars from various European, American and Australian universities and research centres.

The range of research foci is determined in accordance with the areas of specialization of the members of the ARU and in view of the need to investigate sectors of Cypriot archaeology that have not yet been studied in depth.

In addition, members of the academic faculty and students of the Department participate in and conduct archaeological excavations in Cyprus and abroad (Greece, Turkey).

For information on the research programmes please visit the ARU and Department of History and Archaeology websites.

### Director

Vassiliki Kassianidou

### Contact Details

#### Archaeological Research Unit Secretariat

Crissa Gregoriou

Tel.: 22893560

Fax: 22895057

E-mail: [archlgy@ucy.ac.cy](mailto:archlgy@ucy.ac.cy)

[www.ucy.ac.cy/aru/en](http://www.ucy.ac.cy/aru/en)



# Interdepartmental Programme in Byzantine Studies



*The Department of Byzantine and Modern Greek Studies and the Department of History and Archaeology offer a joint specialised postgraduate programme in Byzantine Studies leading to an M.A. and/or Ph.D. degree.*

*The goal of the programme is to promote interdisciplinary approaches in the various fields of Byzantine Studies. More specifically, the programme aims at a multilevel and multifaceted study of Byzantine culture that combines the various theoretical and practical methodological tools of Philology, History, History of Art and Archaeology. In this way, the historical phenomenon "Byzantium" is firmly placed within the broader geographical framework of Medieval Europe and the Middle East.*

## **Aim of the Programme**

The programme is run by members of the two Departments in the following fields of specialization: Byzantine Language and Literature, Byzantine History, Medieval History, Byzantine and Post-Byzantine Art and Archaeology. Moreover, seminars may be offered by members of the University's Academic Staff in related fields (e.g., Ancient History, Classical Philology, Ottoman and Islamic Studies, Theory of Literature, Historical Linguistics) or by visiting professors.

In order to ensure that the students become acquainted with the full range of the three fields and the various methodological approaches involved, the seminars offered in the programme are organized in five thematic modules. These are not only related to different aspects of Byzantine culture, but they also allow for the combination of all the fields and methods mentioned above: (a) Editorial Techniques and Auxiliary Disciplines; (b) Theory and Aesthetics; (c) State and Society; (d) Culture and Ideology; (e) Byzantine and Medieval Cyprus.

## **MASTER OF ARTS (M.A.) IN BYZANTINE STUDIES**

### **Admission Requirements**

1. A completed application form, which can be obtained online.
2. Documentary evidence of academic performance, including official degree transcripts and a detailed list of the courses taken at the undergraduate level. B.A. in Byzantine Philology, History, Archaeology, History of Art, Classical Studies or another related field required (First or Upper Second Class).
3. Brief Curriculum Vitae and statement of academic and research interests.
4. Sample of written work, namely an essay on a topic of the candidate's choice in Byzantine Literature, History, Archaeology, History of Art, Classical Studies or another related field.
5. Two letters of recommendation from specialists, preferably university faculty or other established scholars.

6. In addition to Greek, satisfactory knowledge of two other languages from the remaining five international languages of Byzantine Studies (English, French, German, Italian and Russian). Submission of the related certificates (e.g., GCE A level or TOEFL for English, Delf 2–4 for French, Mittelstufe for German, etc.) is required.
7. If deemed necessary by the faculty of the M.A. programme, the candidate may be invited to an interview.

### Academic Requirements

1. The programme comprises 120 ECTS (1 ECTS = 25 working hours).
  - 2a. Of these, 90 ECTS are acquired via the successful completion of 9 postgraduate seminars (9x9 ECTS = 81) and participation in the “Workshop of Byzantine Studies” for the duration of three semesters (3x3 ECTS = 9). For the “Workshop” see below (4c).
  - 2b. The 225 hours corresponding to the 9 ECTS per seminar are allocated as follows:
    - 39 hours: contact hours in the seminar
    - 117 hours: research and preparation of the essay
    - 69 hours: writing the essay
  - 2c. The 75 hours corresponding to the 3 ECTS for participation in the “Workshop on the Byzantine Studies” per semester include:
    - 30 hours: contact hours in the “Workshop on Byzantine Studies”
    - 45 hours: preparation of presentations in the “Workshop on Byzantine Studies”
- 3a. The remaining 30 ECTS are acquired via the successful completion of the M.A. thesis.
- 3b. The 30 ECTS corresponding to the M.A. thesis are allocated as follows:
  - 20 ECTS: research and writing the M.A. thesis
  - 6 ECTS: regular attendance at the “Workshop on Byzantine Studies” (3 hours per week)
  - 4 ECTS: preparation for the defence of the M.A. thesis (see below, 4d)
- 3c. The extent of the M.A. thesis should be around 12.000–15.000 words, not including bibliography. It should not exceed 50 pages in total.
- 4a. The students are required to attend 9 seminars in total, from at least four different thematic modules. It is also obligatory to attend at least two seminars from each of the three fields of Byzantine Studies.
- 4b. At least four seminars from the listed thematic modules will be offered each semester.

- 4c. In addition to the seminars, there will be a “Workshop on Byzantine Studies” in which members of the Faculty, invited researchers and Ph.D. candidates will present their research. M.A. students are required to participate with their own contributions.
- 4d. During the fourth semester of their studies students present their M.A. theses at the “Workshop.” This presentation is part of their final evaluation for the degree. Each academic year, the presentation of the theses by the M.A. candidates will take the form of a short conference open to the public. The “Workshop” as well as the conference may be organised by Ph.D. candidates in cooperation with a member of the faculty.
- 4e. An M.A. thesis in Byzantine Philology bears the standard code number BMG 590, in Byzantine and Medieval History HIS 590, and in Byzantine and Post-Byzantine Art and Archaeology ARC 590.

### Programme of Studies

The Programme lasts four semesters (full-time).

#### First Semester

Participation in three postgraduate seminars (3x9 ECTS) and in the “Workshop on Byzantine Studies” (3 ECTS)

#### Second Semester

Participation in three postgraduate seminars (3x9 ECTS) and in the “Workshop on Byzantine Studies” (3 ECTS)

#### Third Semester

Participation in three postgraduate seminars (3x9 ECTS) and in the “Workshop on Byzantine Studies” (3 ECTS)

#### Fourth Semester

Preparation and composition of the M.A. thesis under the academic supervisor (30 ECTS). Oral presentation and submission of the M.A. thesis (see above, § 4d)

### Programme Structure

#### 1. Fields and Thematic Modules

The postgraduate programme combines two teaching systems: (a) a vertical system defined by the three main fields of humanist studies (Philology, History, Art and Archaeology), and (b) a horizontal system covering the five thematic modules mentioned above. The vertical system ensures the in-depth study of more specialised research problems, while the horizontal system supports the broader interdisciplinary approach.

The vertical system is revealed by the three letters of a seminar’s code number (BMG: Byzantine Philology, HIS: Byzantine and Medieval History, ARC: Byzantine Art and Archaeology). The horizontal system is reflected in the relevant grouping of the three digits of the code number.

More specifically, the postgraduate seminars are allotted to the five thematic modules as follows:

## 2. Thematic Modules and Postgraduate Seminars

### 2.1 Editorial Techniques and Auxiliary Disciplines (code nos. 500–514)

The seminars of this module focus on editorial theory and practice for medieval texts in the broadest sense of the term (Greek, Latin, French, Italian, Arabic, Ottoman), the study of palaeography, codicology and diplomatics, as well as other auxiliary disciplines, such as epigraphy, sigillography and numismatics. Through a theoretical approach various practical issues are examined, such as the following: the nature of medieval texts and their relation to their respective “carriers”; the nature of the “carriers” as archaeological objects; the editorial problems of texts preserved in only one or in multiple manuscripts; questions of medieval orthography, punctuation and metre; the place of manuscripts, coins and seals in Byzantine society; the specific interpretative problems of these textual and visual objects.

- BMG 500 Editorial Theory and Practice
- BMG 501 Greek Palaeography and Codicology
- HIS 502 Latin Palaeography and Diplomatics
- HIS 503 Byzantine Diplomatics
- ARC 504 Epigraphy
- ARC 505 Sigillography and Numismatics
- ARC 506 Survey of Research and Interpretative Approaches to Byzantine Archaeology
- ARC 507 The Study of Ceramics in Byzantine Archaeology
- BMG 509 Editorial Problems of Ecclesiastical Poetry
- BMG 510 Michaelis Pselli Orationes Funebres
- BMG 511 Patriarchal Documents of Constantinople

### 2.2 Theory and Aesthetics (code nos. 515–529)

Seminars belonging to this thematic unit deal with issues concerning theory and aesthetics in the Byzantine world. The term “theory” in this case has a twofold meaning: it refers both to the literary and artistic theories formed by the Byzantines themselves and to the application of modern critical theories to the interpretation of the artistic and literary products of Byzantine civilization. Thus, in the framework of this unit seminars examine, for instance, ancient rhetorical theories and their use in literary criticism by Byzantine authors, and philosophical and theological theories about icons. The seminars also investigate other more general issues, such as taxonomical problems and narrative approaches, as well as more specific topics concerning the various literary genres or modes of artistic expression.

- BMG 515 Theory and Criticism of Literature in Byzantium
- ARC 516 Byzantine Icon Theory

- BMG 517 Byzantine Literature: Problems of Categorisation
- BMG 518 Genre Issues
- BMG 519 Byzantine Narratives
- BMG 520 Language and Literature
- BMG 521 Performance and Literature
- HIS 522 Historiography and Historical Thought in Byzantium
- BMG 523 Hagiographical Genres
- BMG 524 Religious Poetry and Hymnography
- BMG 525 Byzantine Autobiographical Discourse
- ARC 526 Facets of Reality in Byzantine Art
- ARC 527 Byzantine Architecture: Principles for the Formation and Use of Space
- BMG 528 Theory and Aesthetics of Byzantine Music
- ARC 529 Byzantine “Secular” Art

### 2.3 State and Society (code nos. 530–549)

This unit focuses on issues of political, social, and economic history, such as continuity and change in the transition from Late Antiquity to Early Byzantium, the clash between Christianity and paganism, the relationship between Church and State, contacts with other cultural and political environments, and the passage from Byzantium to Modern Greece. The unit also includes the internal history of institutions (State bureaucracy, law courts, dependent peasantry, Church, monasticism), social history (gender roles, dress, patronage), economic history (agriculture and commerce), as well as topics concerning the influence of external factors on Byzantium (the rise of Islam, the Crusades, the Italian trading cities).

- HIS 530 State and Society
- BMG 531 Byzantine Law
- HIS 532 The Economy in the Medieval World
- HIS 533 The Crusades
- HIS 534 Latin Rule in Greek Lands
- BMG 535 Byzantine Masculinities and Femininities
- BMG 536 Private and Public Space in Daily Life
- ARC 537 “The Social Life of Things” in Byzantium
- BMG 539 Monastic Organisation
- HIS 540 Latins and Greeks in the First Crusade (1073–1111)
- HIS 541 The Latin Empire of Constantinople
- BMG 542 The Image of the Other in Byzantine Literature
- ARC 543 Dress: The Mirror of Byzantine Society
- BMG 544 Byzantine Outsiders
- ARC 544 Byzantine Diet
- ARC 546 The Archaeology of Byzantine Economy
- ARC 547 Byzantine Fortifications
- HIS 548 Social History of the Latin East (11th–13th Centuries)
- ARC 549 Art and Identity at the Time of the Crusades

### 2.4 Culture and Ideology (code nos. 550–569)

In the framework of the seminars of this unit some of the most important aspects of Byzantine culture and

ideology are investigated. Through the examination of both culture and ideology the unit aims at a better understanding of cultural attitudes and mentalities, the Byzantines' relation to both themselves and their world, and also the ideas that determined the intercultural relations between Byzantium and its geographical neighbours in both East and West.

HIS 550	Byzantium and Islam: Conflicts and Exchanges
HIS 551	Oriens et Occidens
HIS 552	Imperial Ideology
BMG 553	The Rhetor and His Audience
BMG 554	Emotions and Mentalities
ARC 555	Personal Piety
BMG 556	Representations of the Body
BMG 557	Representations of Death
ARC 558	From Paganism to Christianity
ARC 559	The Archaeology of Death in Byzantium
ARC 560	Byzantine Material Culture and Identity
BMG 561	The Image of Women in Byzantine Literature
ARC 562	Portraits of Women in Byzantine Art
BMG 563	The Ruler in Byzantine Literature
ARC 564	The Art of Propaganda and Diplomacy
BMG 565	Education in Byzantium
HIS 566	Contra errores Graecorum
BMG 567	Conquests of Cities
HIS 568	Historiography in the Latin-Ruled Greek World: Historicity and Ideology

## 2.5 Byzantine and Frankish Cyprus (code nos. 570–585)

In this unit Cyprus is examined within the wider social, historical, and cultural context of the Mediterranean. Combining the hermeneutical approaches of the three scholarly fields of the postgraduate programme, special methodological emphasis is devoted to the investigation of the connection between the centre and the periphery as well as the understanding of the unique nature of a place at the crossroads whose history and culture were shaped by a variety of influences.

HIS 570	Byzantine Cyprus
HIS 571	Frankish Cyprus
HIS 572	The Ecclesiastical History of Cyprus
ARC 573	Relations between Centre and Periphery: Byzantine Art in Cyprus
ARC 574	Cyprus and the Eastern Mediterranean: Byzantine Landscape Archaeology
ARC 575	Early Byzantine Cyprus: Art and Archaeology
BMG 575	Epiphanius of Salamis
HIS 576	Byzantine Cyprus in the Dark Ages (600–965)
BMG 577	Cypriot Hagiographical Texts
BMG 578	Neophytos the Recluse
HIS 579	Greeks and the Byzantine Tradition in Frankish Cyprus
HIS 580	The Ecclesiastical History of Cyprus 1191–1374
HIS 581	Historiography of Cyprus
BMG 582	Cypriot Scholars of the 13th and 14th Centuries
HIS 583	Women in Latin-Ruled Cyprus (13th-16th Centuries)
ARC 584	Art in Medieval Cyprus during the Period of Latin Rule

## Seminar Descriptions

### 1. Editorial Techniques and Auxiliary Disciplines (code nos. 500–514)

All seminars are credited with 9 ECTS.

#### **BMG 500 Editorial Theory and Practice**

This seminar examines the problems involved in editing Byzantine texts from a broad theoretical perspective, in contrast to the traditional methods of reconstructing “textual archetypes.” Following an in-depth study of various editorial theories, students are asked to edit passages from prose and poetry in the learned and the vernacular idioms.

#### **BMG 501 Greek Palaeography and Codicology**

By focusing on specific areas of manuscript production, this seminar examines specialised issues in the history of scripts and books in the Byzantine world. For example, students have to study in detail such issues as the minuscule of the 9th century, the role of intellectuals in the production of books during the Palaeologan era, scribes and manuscripts in Cyprus (11th–15th centuries), and the manuscript as an archaeological object.

#### **HIS 502 Latin Palaeography and Diplomatics**

After an historical survey of the Latin scripts from Late Antiquity to the invention of movable print in the 15th century, this seminar investigates various genres of Latin documents and texts from the Middle Ages in manuscript form. Special emphasis is placed on transcription, with a goal to edit the texts and create the pertinent scientific apparatus.

#### **HIS 503 Byzantine Diplomatics**

This seminar provides students with the necessary skills for the scholarly investigation of official acts of the Byzantine State. In particular, we discuss the different forms of transmission of archival sources and the external and internal characteristics of official acts according to the usages of each issuing authority (for example, imperial and ecclesiastical acts, acts of public officials, and private acts). In addition, we treat research problems relating to the terminology and content of the documents. Finally, we present the modern techniques employed in the scholarly edition of documents.

#### **ARC 504 Epigraphy**

The Byzantines left us texts inscribed on stone, metal and ivory or painted on wood and mortar. The objective of this seminar is to familiarise students with Byzantine epigraphic material and to cultivate their skills in reading and dating Byzantine inscriptions based on their formal characteristics.

#### **ARC 505 Sigillography and Numismatics**

This seminar examines Byzantine seals (sigillography) and coins (numismatics). Through their inscriptions and iconography, the surviving gold and lead seals are witnesses to the bureaucratic structure and functions of the imperial and ecclesiastical establishments and provide invaluable information on the prosopography of the Byzantine Empire. The seminar also investigates the typology of Byzantine coins, the financial and other factors that governed their issue and circulation, and the role of coinage as a vehicle of the official imperial political and religious ideology.

**ARC 506 Survey of Research and Interpretative Approaches to Byzantine Archaeology**

Beyond the materiality of archaeological remains and their positivist documentation, byzantine culture, very much like any other culture, encompasses symbolic meanings and ideas. Despite the fact that byzantine archaeology was for a long time located on the periphery of modern archaeological research, it has recently begun to acquire a new dimension in the international academic arena as it is applying methodological approaches and interpretative models “borrowed” from other fields of research such as history, anthropology, sociology and psychology. The aim of this seminar is to (a) examine the interpretative approaches and advances in byzantine archaeology in the international sphere of archaeological research, and (b) to evaluate the methodological approaches that are currently followed for understanding the byzantine material remains through the exploration of specific case-studies.

**ARC 507 The Study of Ceramics in Byzantine Archaeology**

Pottery is the most common find in an archaeological excavation. While the study of byzantine and post-byzantine ceramics had for a long time been overlooked, now its precise chronology is being continually refined. The aim of this seminar is the examination of the typo-chronology of byzantine and post-byzantine common- and table-wares, as well as the evaluation of the information they provide for understanding byzantine society.

**BMG 509 Editorial Problems of Ecclesiastical Poetry**

In comparison to other Byzantine literary genres, ecclesiastical (liturgical) poetry was used more extensively and hence it was copied more frequently. Therefore, the determination of the archetype of a liturgical hymn is a difficult and sometimes unreachable goal. This seminar familiarizes students with the process of the textual criticism of ecclesiastical hymns and with the pertinent editorial techniques. Multiple problems are studied, such as the detection of the manuscript tradition of poetic texts, the determination of the stemmatic relation of their known manuscripts and, where possible, the establishment of the archetype. At the same time, the seminar examines the morphology of hymns, their metric structure and their relation to biblical and patristic texts in prose or in verse.

**BMG 510 Michaelis Pselli Orationes Funebres**

This seminar focuses on editorial issues relating to the nineteen preserved funeral orations of Michael Psellos (1018–1079). In the first stage, the palaeographical and codicological problems of the manuscripts preserving these works are examined, and the problems inherent in the available editions, but also the linguistic and literary characteristics of this highly artful funerary corpus, are discussed. In the second stage, students are asked to prepare a full critical edition of one of the lengthier orations.

**BMG 511 Patriarchal Documents of Constantinople**

This seminar comprises the perusal (from the original), edition and interpretation of the only preserved part of the hieron kodikion (covering the period 1315–1402) in which the decisions of the Synodos endemousa of Constantinople were written down. Special emphasis is placed on the social, historical and intellectual context of the documents.

**2. Theory and Aesthetics (code nos. 515–529)**

**BMG 515 Theory and Criticism of Literature in Byzantium**

This seminar examines Byzantine attitudes to literature through the study of theoretical works (e.g., rhetorical handbooks, commentaries on ancient and medieval texts) and of critical essays on specific texts or authors by Byzantine intellectuals (e.g., Photios, Michael Psellos, Theodore Metochites). At the same time, the seminar examines the Byzantines’ notions of poetics as these take shape in the texts themselves and through their authors’ own poetological statements.

**ARC 516 Byzantine Icon Theory**

The Byzantines’ perception of the role of religious art dictated, to a large extent, the latter’s formal characteristics and iconography. Through the study of relevant written sources and the analysis of works of art, the principles that governed the creation of religious images in Byzantium are investigated and the stages of the theoretical discussion that led to the definition of the role of religious images within the context of Orthodox worship are explored.

**BMG 517 Byzantine Literature: Problems of Categorisation**

This seminar investigates certain pairs of concepts (literature vs. non-literary texts, vernacular vs. learned language, secular vs. theological literature, prose vs. verse and historiography vs. chronography) and examines their multiple interrelations. The questions whether and how modern models of categorisation can be applied to Byzantine literature are given special emphasis.

**BMG 518 Genre Issues**

Genre constitutes an important tool in the study, the reception and interpretation of literature. However, Byzantinists have shown little interest in the history and development of the literary genres produced in Byzantium. In the framework of this seminar, issues referring to Byzantine literary genres and their interrelations are thoroughly discussed.

**BMG 519 Byzantine Narratives**

This seminar examines (through the use of narratological theory) the various narrative techniques and structural devices used by Byzantine authors to construct a narrative. During the seminar students read such texts as historiographical works, lives of saints, romances and epic narratives. The seminar includes comparisons of Byzantine narratives with respective Western and Eastern medieval works (e.g. French vernacular historiography and hagiography, French and German romance, Arab prose epics and oral story-telling, Persian romances).

**BMG 520 Language and Literature**

This seminar examines the diachronic changes in medieval Greek and the formation of dialects as well as the development of the written language, which had to strike a balance between the constantly changing necessities of everyday communication and the ambitions of conservative education and literature based on antique models. Special emphasis is placed on the analysis of a wide range of different linguistic and stylistic levels of the written language.

**BMG 521 Performance and Literature**

In contrast to other ancient literary genres, drama was not produced in Byzantium. Theatrical elements can be detected in

many Byzantine genres, however, such as historiography, chronography, saints' lives, miracle stories and hymnography. In this seminar, the theatrical and performative dimensions of Byzantine literature are examined.

#### **HIS 522 Historiography and Historical Thought in Byzantium**

In this seminar we investigate, on the one hand, the theories of the Byzantines about their past and the ideological principles that governed the composition of historiographical texts in Byzantine society. On the other hand, we examine how the Byzantines' own conceptions of their past might have influenced even modern research with regard to the choice of research topics and hermeneutical models. More generally, we intend to question the limits of our knowledge on issues concerning the political, social, and economic history of Byzantium.

#### **BMG 523 Hagiographical Genres**

Hagiographical Genres were very popular in Byzantium. The study of these genres not only provides us with valuable information concerning their production, their audiences and literary tastes in Byzantium, but also helps bring to the fore some very interesting texts of high literary value.

#### **BMG 524 Religious Poetry and Hymnography**

This seminar focuses on the history and the role of religious and ecclesiastical poetry in the intellectual life of Byzantium. The form and content of this poetry is studied through representative religious and ecclesiastical hymns from the beginning of the Christian era until the end of the Byzantine Empire. Based on selected genres of Byzantine hymnography, we examine the following issues: the origins of this hymnography, the conditions and reasons that led to the development and decline of special forms, as well as the hymnographical production, innovative choices and particularities of well-known poets and melodists.

#### **BMG 525 Byzantine Autobiographical Discourse**

This seminar examines the different ways of self-representation in literary and non-literary texts. These different ways are closely connected with specific Byzantine mentalities and the possibilities of conceiving the Self. To understand Byzantine autobiographical writing, an investigation into contemporary conventions that define one's self-image are indispensable.

#### **ARC 526 Facets of Reality in Byzantine Art**

The Divine Liturgy and public cult, historical events and social problems, daily life and material culture are all aspects of contemporary reality that are reflected in Byzantine art. Their exploration not only reveals the multi-layered symbolism of this art, but also enhances our understanding of its formation.

#### **ARC 527 Byzantine Architecture: Principles for the Formation and Use of Space**

Byzantine architecture shaped spaces, whether interior or exterior, public or private, secular or religious. This seminar examines their formal characteristics not only in relation to the practical needs they were meant to satisfy or the technical expertise available for their creation, but also in association with the world-view, the religious beliefs, the social structures and the political ideology of the Byzantine State and society.

#### **BMG 528 Theory and Aesthetics of Byzantine Music**

This seminar introduces students to one of the most inaccessible areas of Byzantine culture. Initially, the various ancient Greek mathematical and philosophical theories on music and harmony are presented as they were received and reformulated by the Byzantines. Next, the theoretical treatises on the art of ecclesiastical chant in Byzantium and the Byzantines' aesthetic notions about music are discussed. Finally, through the examination of Byzantine musical manuscripts, various testimonies in textual sources (e.g., information about instruments and musicians), as well as visual and ethnomusicological material, music in Byzantium inside and outside of liturgical practice are studied.

#### **ARC 529 Byzantine "Secular" Art**

It is commonly thought that Byzantine art, architecture included, was predominantly religious art and that its main purposes were the expression and dissemination of Christian dogma and the consolidation of the position of the Church. Nevertheless, works of art with a non-Christian content or character were created throughout the Byzantine millennium, ranging from palaces and public buildings to ivory caskets adorned with mythological themes. This seminar focuses on the study of such works. Theoretical issues concerning the definition of the term "secular" within the context of a Christian-centric culture will be examined parallel to issues relating to the typology, iconography, function, and reception of secular art in Byzantium.

### **3. State and Society (code nos. 530–549)**

#### **HIS 530 State and Society**

This seminar focuses on the specifics of the State machinery and social structures in medieval political units. On the basis of selected examples from Byzantine history, we investigate fundamental notions, such as the bearers and exertion of State authority, the meaning of sovereignty, the dissemination and implementation of political decisions, the role of ceremony in political life, and so on. The second part of the seminar involves phenomena of the social stratification of Byzantium, such as the concept of social class, the self-perception of social groups, as well as their relationship with imperial authority.

#### **BMG 531 Byzantine Law**

This seminar provides an introduction both to the principles of Byzantine law (Justinian's Code and its Byzantine redactions, canon law) and to legal institutions (e.g., law courts), as well as to Byzantine jurisprudence (judicial decisions, opinions, etc.). Moreover, we examine texts witnessing everyday judicial procedures that concern primarily family and inheritance law (court decisions, wills), and which highlight the strained relations between legal theory and social reality.

#### **HIS 532 The Economy in the Medieval World**

The Byzantine economic system, just as that of every other medieval state, was based to a great degree on agriculture, while trade did not surpass the level of local exchanges until this sector became a vital factor in economic development with the appearance of the Italian trading republics in the Byzantine world. In this context we examine sub-topics relating to the methods of production, the transportation of goods, taxation, the circulation of money, the market, etc. Special emphasis is placed on the question to what extent the economic history of

a region can be written when statistical data are completely lacking.

#### **HIS 533 The Crusades**

This seminar focuses on various themes concerning the “Holy Wars” between Western Christendom and Islam in Sicily, Spain, and especially the Middle East, from the 11th to the 15th century. Emphasis is placed on the role of the Greeks and relations between Greeks and Latins during the preparation and conducting of the campaigns.

#### **HIS 534 Latin Rule in Greek Lands**

This seminar investigates various aspects of the history of regions in which Greeks lived under Latin rule during the Middle Ages, namely Sicily and Southern Italy, Syria and Palestine, Cyprus, Frankish Greece, Constantinople, and Crete and other islands. Special attention is devoted to the political, ecclesiastical, and social position and situation of the Greeks.

#### **BMG 535 Byzantine Masculinities and Femininities**

What did it mean to be a man or a woman in Byzantine society? What were the masculine and feminine ideals of the Byzantine world? How did they evolve over time and vary according to social milieu? How are the male and female realms represented in Byzantine literature? These are some of the questions addressed in the context of this seminar through an examination of various texts from different genres and eras.

#### **BMG 536 Private and Public Space in Daily Life**

Through the examination of a broad spectrum of texts, this seminar approaches various problems in the study of everyday life and the investigation of Byzantine perceptions concerning the complementary but also contradictory meanings of “public” and “private” space. We discuss topics such as diet and culinary practice, oenology, objects of everyday use, the place of baths in society and in economy, sexual activities and practical medicine. Parallel to this, we look into a number of methodological issues, such as the depiction of daily life in literature and the problems that arise for a satisfactory historical and archaeological interpretation of public and private space.

#### **ARC 537 “The Social Life of Things” in Byzantium**

Artifacts played a significant role in various aspects of the public, religious and private life of the Byzantines, a role that was rarely exclusively utilitarian, since objects often functioned as symbols of social status and wealth, and as vehicles of cultural values. This complex role may be deciphered and become better understood through the combined examination of the available archaeological, artistic and written evidence.

#### **BMG 539 Monastic Organisation**

This seminar investigates the organisation of daily monastic life and its economic and intellectual foundations mainly as reflected in monastic foundation rules, but also in saints’ lives and other texts. We examine the rhythm of everyday life (canonical hours, sleep, work, the distribution of tasks) in addition to the management of the material supports of monastic life – mainly immovable property – and the tension between the ideal life devoted to God and the requirements of interaction with the outside world.

#### **HIS 540 Latins and Greeks in the First Crusade (1073–1111)**

This seminar focuses on the controversial issue of the participation of Greeks and Latins in the planning of and preparation for the First Crusade, as well as the relations between Greeks and Latins (or the emperor and the crusaders) during the campaign and afterwards, with the foundation of the Crusader States in the East.

#### **HIS 541 The Latin Empire of Constantinople**

This seminar examines the history of Constantinople and Frankish Greece from the conquest of the city by the Latins during the Fourth Crusade in 1204 until its reconquest by Michael VIII Palaiologos in 1261. This is an era of great interest but unfortunately there are very few sources and, therefore, many interpretive problems.

#### **BMG 542 The Image of the Other in Byzantine Literature**

The image of the Other, who comes into conflict with the Self, is one of the motifs that appears in almost every Byzantine literary genre. The literary construction of the Other constitutes an especially significant characteristic of Byzantine texts and assumes many shapes. The subject of this seminar is the examination of the various appearances of the Other and their importance in the construction of Byzantine mentalities and ideologies.

#### **ARC 543 Dress: The Mirror of Byzantine Society**

In Byzantium dress was one of the most important means by which individuals and social groups constructed and projected their identity outwards and by which this identity was perceived by others. This seminar investigates how gender, age, family position, religious beliefs, moral values, ethnicity, profession, social status and economic situation are expressed in the choice of clothing and accessories, as well as in the adoption of particular hairstyles and make-up.

#### **ARC 544 Byzantine Diet**

Through the examination of archaeological information (ceramic and metal table vessels, cooking pots, architectural and organic remains, human skeletal remains and animal bones), and with the aid of iconography and textual sources, this seminar explores issues related to byzantine dietary preferences and cooking habits from the 5th to the 15th century. The seminar focuses on the kinds of foodstuffs that the byzantines preferred, their quality, and the ways food was processed, served and consumed within the domestic sphere.

#### **BMG 544 Byzantine Outsiders**

Pagans, magicians, gays, whores, and invalids were some of the fringe groups of Byzantine society. In the context of this seminar we examine the portrayal of the world on the edges in Byzantine literature.

#### **ARC 546 The Archaeology of Byzantine Economy**

This seminar examines issues related to the economy and commercial enterprises in the Byzantine Empire, focusing not only on the study of archaeological finds, such as coins, amphorae and other items of commercial value, but also on the study of urban economy, the relationship between town and country and the exploitation of agricultural lands.

#### **ARC 547 Byzantine Fortifications**

The aim of this seminar is the exploration of issues related to the Byzantine system of defence through the study of its fortifications and fortification networks. More specifically, this seminar examines the functional and symbolic role of fortifications (defended settlements and cities, towers and castles) with the aid of written sources (about weaponry and fortification networks) and artistic testimonies (representation of sieges, walled cities-fortresses in art, etc.). Greater emphasis is placed on periods of insecurity and transition (e.g., Arab and Slav sieges, Crusader conquests, Seljuk and Ottoman attacks).

#### **HIS 548 Social History of the Latin East (11th-13th Centuries)**

The aim of the seminar is to examine the institutions that were created as a result of the western (in the context of the crusades) conquest and settlement of areas in the Eastern Mediterranean and the Byzantine world (Kingdom of Jerusalem, Lusignan Kingdom of Cyprus, Latin Empire of Constantinople, Principality of the Morea, and Venetian Crete). The study of the relationship between, the imported feudal political, legal, social, and economic institutions and the pre-existing institutions allows us to draw conclusions about the nature of the resulting system (whether it was entirely feudal, colonial, or hybrid) and the extent of the survival of the byzantine institutions. Furthermore, it gives us a better understanding of the cohabitation framework that the Latin settlers set up with the indigenous Greek and other groups in both the religious and the cultural domains as well as of those factors that determined the degree of adaptability and interaction and the creation of new identities.

#### **ARC 549 Art and Identity at the Time of the Crusades**

The seminar explores the various forms of artistic expression that flourished in the service of the multicultural societies of the Eastern Mediterranean during the period of the Crusades. There will be special emphasis on the study of the fertile meeting between the art of the East and the art of the West that is called Crusader Art.

### **4. Culture and Ideology (code nos. 550–569)**

#### **HIS 550 Byzantium and Islam: Conflicts and Exchanges**

This seminar examines certain aspects of relations between Byzantine culture and the neighbouring Islamic world, from the emergence of the Arabic caliphate in the seventh century until the final struggle of the Empire with the Ottoman Sultanate. Special emphasis is placed on the ambivalent character of these relations, which on a political–ideological level present harsh conflicts, whereas on a cultural level they are inspired by a true interest in the other side, and, in turn, lead to fruitful mutual influences.

#### **HIS 551 Oriens et Occidens**

This seminar examines the image of the Other that Western authors formed about the Byzantines in the Middle Ages and vice-versa. The seminar focuses on the question of how this image varies according to the social position of the author, the genre of the text, and the historical period in which it was written.

#### **HIS 552 Imperial Ideology**

After the Christianization of the Roman Empire the emperor, who used to be considered as a god, became a ruler chosen by God and embodied the idea of oecumenicity and the Living

Law. However, the emperor never ceased to flirt with the idea of his divine identity. In this seminar we examine these and other aspects of imperial ideology through ceremonial texts, arengas of imperial documents and laws, literary texts, and Byzantine works of art.

#### **BMG 553 The Rhetor and His Audience**

Rhetoric was an indispensable part of education in antiquity and, in spite of various transformations, it maintained its essential role until the end of Byzantium. The influence of rhetoric on the development of Byzantine literature was broad and deep. Based on rhetorical texts of religious and secular content, we examine the relation of the author with his public, the rhetorical rules and the practices he followed, as well as the level of the language and style employed in connection with his education, his aims, and the public that he was addressing.

#### **BMG 554 Emotions and Mentalities**

This seminar examines the Byzantine emotional and intellectual world and investigates what kind of emotions the Byzantines had, and how they conceived both these emotions and themselves. The variability of apparent constants of human life and problems of interpretation connected to this variability are emphasised.

#### **ARC 555 Personal Piety**

The need for the expression of personal piety constituted one of the most vital motivating forces behind the creation of Byzantine art. The objective of this seminar is the investigation of the ways in which the Byzantines expressed their religiosity and faith through the adoption of certain, socially acceptable, modes of behaviour and the commission and usage of works of art.

#### **BMG 556 Representations of the Body**

The meaning of the human body changes across cultures and periods. Different societies and cultures understand and treat the body in dissimilar ways. The relation that Byzantines had with their bodies and the meanings they attributed to them are subjects that have not been studied at all. In the framework of this seminar, the meanings that the body had in Byzantium and its representations in art and literature are examined.

#### **BMG 557 Representations of Death**

This seminar looks at the ways of representing death in Byzantine literature and at the various ideological parameters of such representation in different periods of Byzantine history. In connection with the religious beliefs of the Byzantines, theology, liturgical practice, but also the depiction of death in Byzantine art, a series of texts from a broad spectrum of genres are read, for example, works of funerary literature (funeral orations, tombstone epigrams, laments), hymnographic works, historiographical and hagiographical texts, testaments, novelistic and epic-like narratives.

#### **ARC 558 From Paganism to Christianity**

This seminar aims to explore the gradual “transition” from the ancient world and paganism to Byzantium and Christianity through the study of archaeological remains and works of art. Emphasis is placed on the identification of this procedure through the symbolism of early Christian art and architecture: the transformation of ancient temples to Christian churches, the building of new basilicas, sculpture and monumental art, the

transformation of Late Antique urban space, items facilitating Christian worship and burial practices.

**ARC 559 The Archaeology of Death in Byzantium**

Peoples' reactions to the idea of death and the afterlife, the preparation of the dead and burial practices are aspects that belong to the sphere of byzantine ideology. This seminar examines issues related to death and burial in the byzantine world (5th-15th c.), on the basis of archaeological remains and the visual arts, and with the aid of written sources. More specifically, the seminar examines the typological development of cemeteries and graves, the decoration of grave monuments and its meaning, items accompanying graves and their symbolism, as well as the evaluation of conclusions regarding byzantine living standards and conditions through the study of skeletal remains.

**ARC 560 Byzantine Material Culture and Identity**

This seminar aims to study the various "identities" of the byzantine people, as these are expressed in the material remains of the period. Emphasis is placed on the "identification" of identity in aspects of the material culture (e.g., the built environment, the byzantine house, the costume, items of domestic comfort), in other words, the expression of religious, political, cultural, social, "ethnic" or other identity. Moreover, the seminar examines the role of the byzantine civilisation in the formation of socio-political and/or cultural ideology of contemporary states, such as Greece, Cyprus and Turkey.

**BMG 561 The Image of Women in Byzantine Literature**

Byzantine literature could be described as androcentric, since it was written by men and is mainly about men. As a result, the women depicted in Byzantine literature constitute literary constructions of male fantasy, which is often misogynistic. In this seminar, the literary constructions of various women in texts belonging to many genres and different centuries are approached.

**ARC 562 Portraits of Women in Byzantine Art**

From the Virgin Mary to Eve, from holy women to female sinners in the composition of the Last Judgment, from empresses to simple women working in the fields, Byzantine art offers a wide spectrum of female portrayals. Their examination reveals Byzantine attitudes and views concerning the position and the role of women in Byzantine society.

**BMG 563 The Ruler in Byzantine Literature**

The figure of the emperor plays a rather important role in Byzantium's political ideology. Yet, in most cases, this figure is presented through literary representations that idealise or denigrate the ruler. This seminar examines the literary mechanisms and the ideological framework of this construction of the ideal ruler through rhetorical, historiographical, and legal texts, but also through works of "political theory" (e.g., the Imperial Statue of Nikephoros Blemmydes or the *De administrando Imperio* of Constantine Porphyrogenetos).

**ARC 564 The Art of Propaganda and Diplomacy**

It is often claimed that the survival of the Byzantine Empire for over a millennium is due, to a large extent, to the efficiency of Byzantine diplomacy. This seminar explores the use of art by the State and the Church as a powerful means of self-promotion and as an effective vehicle for the dissemination of political and

religious messages both within the borders of the Empire and abroad.

**BMG 565 Education in Byzantium**

Intellectual flourishing in Byzantium depended on the learning of certain scholars and on the organisation of education. In order to evaluate Byzantine culture, it is necessary to understand its literary tradition and therefore to study the role of education. This seminar focuses on the coexistence of the Ancient Greek tradition and Christian doctrine in education as well as on the institutions of education in various periods of Byzantine history.

**HIS 566 Contra Errores Graecorum**

The Latin image of the theological "errors" of the Greeks from Charlemagne to the Fall of Constantinople has not been fully investigated. This seminar examines various texts that were written *Contra errores Graecorum*, for example, in the context of the coronation of Charlemagne (800), the Photian Schism (860), the mutual excommunications of 1054, the Crusades, and the Councils of Lyons II (1274) and Florence (1438–39).

**BMG 567 Conquests of Cities**

This seminar focuses on the subject of the conquest of Byzantine cities as presented in various literary genres. Characteristic examples are studied, beginning with historical accounts of the events and continuing with texts of rhetoric or poetry (monodies, *Threnoi*, etc.). Special emphasis is placed on works concerning the captures of Thessaloniki and Constantinople.

**HIS 568 Historiography in the Latin-Ruled Greek World: Historicity and Ideology**

The seminar makes a comparative study of a variety of historical texts (chronicles, annals, narratives in prose, narrative poems, manuscript historical notes, memoranda and *relazioni*) from the Latin-ruled Greek world (Cyprus, Morea, Ionian Sea, Crete, the Aegean) during the byzantine and post-byzantine period. Various aspects of the process of history writing will be investigated, such as historiographical genres, language and style, historicity and reliability of the texts, and the projected ideology in connection with each text's socio-political context and authorial subjectivity. A comparison with texts of the byzantine and western historiographical traditions as well as with texts from the Latin East will allow us to trace relationships and influences and will reveal those factors that favoured a historiographical production on Cyprus that surpasses significantly that in other areas in volume, span of time and variety.

**5. Byzantine and Frankish Cyprus (code nos. 570–585)**

**HIS 570 Byzantine Cyprus**

Using the example of Byzantine Cyprus, this seminar examines the various difficulties that the investigation and interpretation of the periphery and the border areas of Byzantium present, since the centralisation tendencies of the capital clashed with local traditions and particularities, as well as with the spheres of influence of neighbouring political powers.

**HIS 571 Frankish Cyprus**

This seminar studies topics in Cypriot history during Frankish and Venetian rule, 1191–1571, such as the conquest, feudalism, the civil wars of 1228–1233 and 1456–1460, the coup d'états of 1306–1310 and 1369, the Genoese invasion, the war with the

Mamlukes, the transfer of authority to the Venetians, language and nationality, law, administration, foreign relations, education, agriculture, slavery, and trade.

### **HIS 572 The Ecclesiastical History of Cyprus**

This seminar examines various topics of the Church history of Cyprus from the First Ecumenical Synod of Nicaea in 325 until the Turkish Conquest of 1571. These include the period of Epiphanius, the Autocephaly, Iconoclasm, and the subjugation of the Greek clergy to the Roman pope in the Frankish period.

### **ARC 573 Relations between Centre and Periphery: Byzantine Art in Cyprus**

Within the broader context of the dynamics between the centre and the periphery, various manifestations of artistic expression in Cyprus are discussed with the purpose of highlighting its distinguishing features. Special emphasis is placed on tracing the mechanisms of transmission and assimilation of the general trends emanating from the major artistic centres of the Empire through the Cypriot artistic idiom.

### **ARC 574 Cyprus and the Eastern Mediterranean: Byzantine Landscape Archaeology**

This seminar examines the evolution of the built space and the long-term history of the rural landscape during the byzantine period and the era of Latin/Frankish domination in the Eastern Mediterranean (4th-16th c.). Emphasis is placed on the exploration of the diachronic relationship between geography and settlement, the relations between city and the rural countryside, the role of the "village" (as an autonomous settlement and economic unit), and the interpretation of settlement patterns and location.

### **ARC 575 Early Byzantine Cyprus: Art and Archaeology**

The Early Byzantine period (4th-7th c.), also known as the period of Late Antiquity, was an era of growth and prosperity for Cyprus as attested by a wealth of archaeological remains. Through the examination of these remains, students will have the opportunity to explore issues relating, among others, to life in Cypriot cities and the countryside, commerce and economy, artisanal production, such as pottery and metalwork, and, not least, the expansion of Christianity and its impact on various aspects of daily life and artistic production on the island.

### **BMG 575 Epiphanius of Salamis**

This seminar focuses on Epiphanius of Judaea, founder and abbot of a monastery for thirty years and bishop of Salamis (Constantia) from 367. On the basis of his writings, we examine his theological opinions and his activities as bishop, as well as the ecclesiastical history of his period. He represents a combination of an uncompromising zealot, a devoted defender of Christian doctrine, an intolerant opponent of paganism and the veneration of idols, and a rigid adversary of the teachings of Origen.

### **HIS 576 Byzantine Cyprus in the Dark Ages (600–965)**

The first Arab raids in Cyprus (649, 653), together with the ensuing developments, created a particular regime on the island that is usually characterised as the "Byzantine-Arab Condominium". This period, which lasted approximately 300 years until the reconquest of Cyprus by Nicephoros II Phocas (965), gives us the opportunity to examine a section of the Byzantine-Arabic border region from two different vantage

points, the Byzantine and the Arabic, in the light of wider political and social developments in the Eastern Mediterranean basin.

### **BMG 577 Cypriot Hagiographical Texts**

We possess a relatively large number of hagiographical texts composed in Cyprus, many of which are devoted to Cypriot saints. In the context of this seminar, we discuss Cypriot hagiographical texts from a literary perspective, as well as the social conditions of their production.

### **BMG 578 Neophytos the Recluse**

The goal of this seminar is a comprehensive examination of the personality and the oeuvre of Neophytos the Recluse in the historical, political, and social environment of Byzantine Cyprus from the mid-12th century until the beginning of the 13th. Special emphasis is placed on education in the periphery, manuscripts, libraries, monastic life and art, and the spiritual and literary contribution of Neophytos.

### **HIS 579 Greeks and the Byzantine Tradition in Frankish Cyprus**

While the establishment of the Frankish Kingdom of Cyprus certainly put an end to the political sovereignty of Byzantium, it did not sever the spiritual and cultural bonds of the Greek-speaking population with the Byzantine world. This seminar investigates the institutions, mentalities, and traditions of the Byzantine past that, beneath the surface of the feudal system, continued to exist and to influence the historical development of the island.

### **HIS 580 The Ecclesiastical History of Cyprus 1191–1374**

This seminar concentrates on the analysis of the Church history of the island from the Frankish conquest until the Genoese invasion, the consequences of the conquest for the Greek clergy, the establishment and the internal history of the Latin ecclesiastical hierarchy, monasticism, the relations between the Latin and Greek clergies, and noteworthy events, such as the martyrdom of the thirteen monks of Kantara.

### **HIS 581 Historiography of Cyprus**

This seminar examines the most significant chronicles relating to the Frankish period in Cyprus and focuses on the first two phases of Cypriot historiography: from 1425 to 1571 (Makhairas, Amadi, Florio Boustron, George Boustronios) and from 1571 to 1788 (Etienne Lusignan, Loredano, Archimandrite Kyprianos). The aim of the seminar is to establish the genealogical "stemma" of the chronicles as well as the methodology and originality of each chronicler.

### **BMG 582 Cypriot Scholars of the 13th and 14th Centuries**

This seminar investigates the oeuvre of Cypriot men of letters, such as George of Cyprus and George Lapithes in the broader literary and cultural context of their times. Importance is placed on the question if and how the relationship between the cultural centre and the periphery is reflected in the works of specific authors.

### **HIS 583 Women in Latin-Ruled Cyprus (13th-16th Centuries)**

The seminar offers a general survey of the role of women in Cypriot society during the Frankish and Venetian domination; in this way women's social contribution emerges from its anonymity in both the sources and modern literature. The investigation of the position of medieval Cypriot women will

examine how women's gender affected the ensuing religious and social prejudices, the politico-historical context, the institutional and legal (customary, secular, and ecclesiastical) framework, and will look at women's contribution to political life and the economic production (in rural and urban areas). From the scattered information provided by the sources, we will attempt to illustrate the full range of these women's social presence: family life and relations between the sexes, power and politics, economy and monasticism, artistic production and entertainment.

**ARC 584 Art in Medieval Cyprus during the Period of Latin Rule**

This seminar explores both the products and the conditions for artistic creativity in Cyprus during the period of Latin rule. Within this framework students will have the opportunity to study representative works – mainly secular and ecclesiastical painting and architecture – within their historical, religious, social, and cultural context. There will be a particular emphasis on the exploration of the dynamic interaction between the deeply rooted byzantine artistic tradition of Cyprus and imported artistic traditions from the West and the Crusader Levant.

**DOCTOR OF PHILOSOPHY (Ph.D.)  
IN BYZANTINE STUDIES**

**Admission Requirements**

The admission requirements for the Ph.D. programme are the same as those for the Master programme (see relevant paragraph above). For the Ph.D. programme, a postgraduate degree (M.A., Mastère, etc.) in Byzantine Studies or other related fields is required.

The timeframe for the successful completion of the Ph.D. programme cannot exceed eight (8) academic years after admission.

**Academic Requirements**

1. Comprehensive examination. By the fifth semester at the latest, the Ph.D. candidate is required to pass a comprehensive oral examination before a three-member committee. It comprises three subjects selected by the candidate from a list of topics representative of all the academic fields of the postgraduate programme.
2. Approval of detailed thesis proposal. Following the comprehensive examination, within a period of four semesters maximum, the Ph.D. candidate submits a detailed thesis proposal, which is evaluated by a three-member committee.
3. Attendance at and active participation in the "Workshop of the Byzantine Studies".
4. Submission and defence of the Ph.D. dissertation.

For more information on the academic requirements, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department's Secretariat.

**Contact Details**

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# Medical School

Postgraduate Prospectus 2017-2019

# Medical School



The Medical School of the University of Cyprus, was established by law on the 7th of November 2008.

The Medical Programme comprises six years of study, divided into three phases. Phase I concerns the 1st year of studies and includes preparatory studies (basic exact and pure sciences) e.g.: Biology, Chemistry, Physics, Mathematics and Statistics, as well as Psychology. Phase II (2nd and 3rd year of studies) includes interconnected studies in basic Medical Sciences: Anatomy, Physiology, Pharmacology, Histology, etc. including the study and analysis of Behavior and Clinical Skills. Phase III (4th, 5th, 6th year of studies) primarily consists of Clinical Studies, which are delivered in Public Hospitals.

At the moment, the Medical School does not offer postgraduate programmes.

## Contact Details

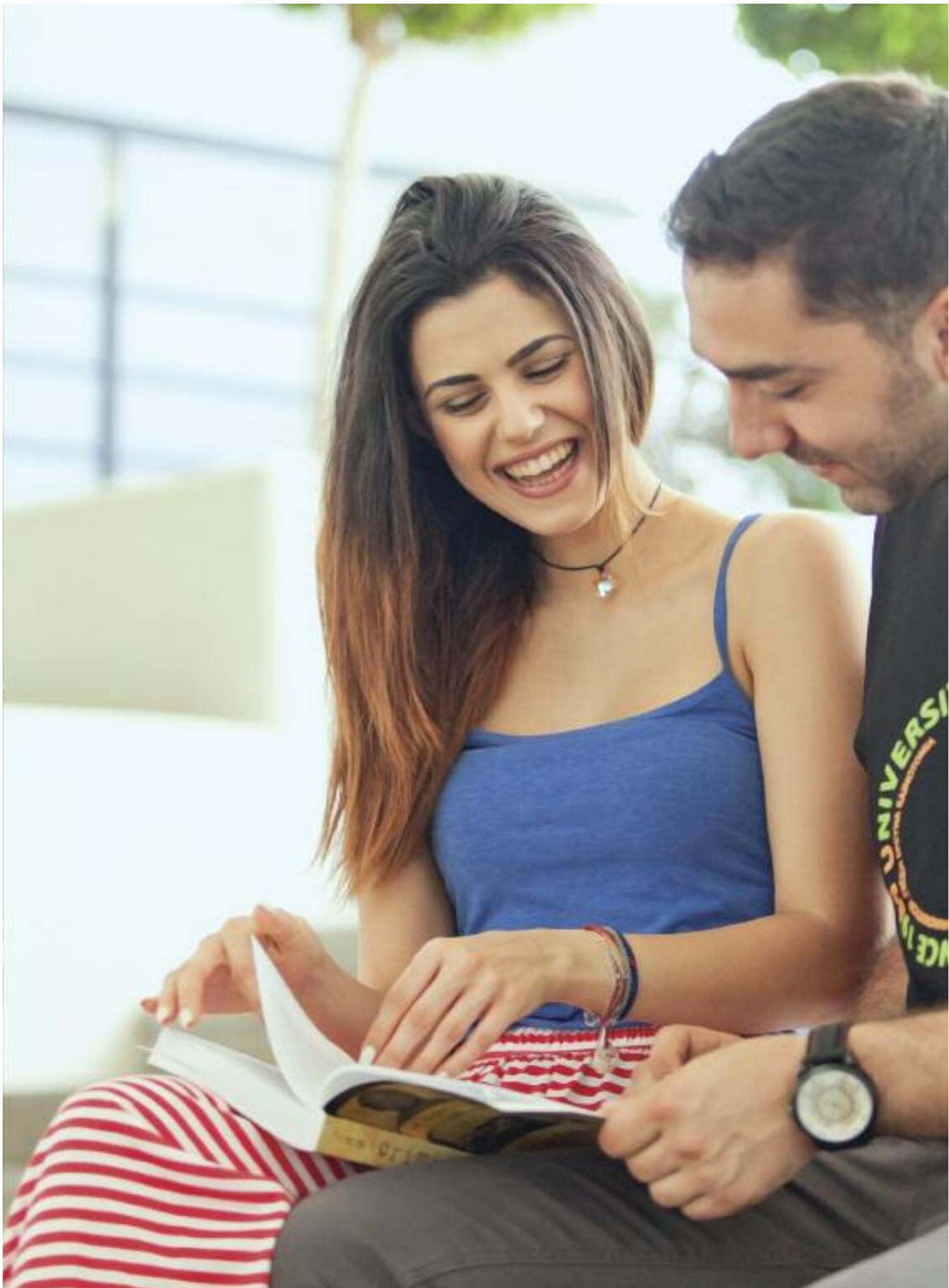
Medical School

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# Faculty of Pure and Applied Sciences

## DEPARTMENTS

Biological Sciences

Chemistry

Computer Science

Mathematics and Statistics

Physics

Postgraduate Prospectus 2017-2019

# Department of Biological Sciences



*The Department of Biological Sciences offers studies in the following postgraduate programmes:*

• *M.Sc. Programmes*

- *M.Sc. in Molecular Biology and Biomedicine*
- *M.Sc. in Biomedical Sciences*
- *M.Sc. in Biodiversity and Ecology*

• *Ph.D. Programmes*

- *Ph.D. in Biomedical Sciences*
- *Ph.D. in Biodiversity and Ecology*

## Introduction

The Department of Biological Sciences is involved in research and teaching in a variety of disciplines within the field of Biological Sciences, including Genetics, Cancer Biology, Immunology, Cell Biology, Developmental Biology, Embryology, Bioinformatics, Epigenetics, Virology, Ecology and Biodiversity. The Department currently represents the most concerted and diverse research effort in biological research and the most competitive, in terms of infrastructure and external research funding, on the island.

Research and postgraduate teaching in the Department are currently conducted by its 13 Faculty members, each heading a research laboratory in a distinct field of research, all of whom were trained and/or have worked in renowned Research Institutions, including the University of Cambridge, University of Oxford, The European Molecular Biology Laboratory, Rockefeller University, Harvard University, and others, before taking up their current posts.

The research output and external funding of the Department are substantial despite its relatively short existence (it admitted its first postgraduate students as recently as September 2003). For example, the Department succeeded in producing internationally competitive, cutting-edge research that has been published in high impact, peer-reviewed, world-renowned scientific journals such as 'Developmental Cell', 'Nature Communications', 'PLoS Genetics', 'Proceedings of the National Academy of Sciences', 'Journal of Cell Science', and others.

The Department's Faculty members have succeeded in obtaining major external funding awards for research amounting to several million Euros. This funding includes the prestigious and highly competitive ERC starting grant, the competitive Marie Skłodowska-Curie and other EU Framework program grants. It also attracted significant funding from the Research Promotion Foundation, the National Research Funding Public Agency. Overall, since its establishment in 2002, the Department received more than 11 million Euros in externally sponsored research funding.

The core mission of the Department of Biological Sciences is:

1. to strive to engage in high caliber and competitive research that represents cutting edge topics in current biology
2. to foster international research collaborations and maintain an internationally extrovert profile
3. to educate the new generation of young biologists, and scientifically train researchers and scientific leaders of Cyprus in Biology. The overall aim is to produce scientists who are en par with international graduates and can be effectively recruited in the private job market, secondary education, the health sector, or remain engaged in local and international research activity.

The Department actively encourages student exchanges through the Erasmus program in order to provide students with beneficial formative exposure to other European Universities.

The Department of Biological Sciences currently focuses on:

1. The development of an internationally competitive research based on the discovery and innovation in Biology and Biomedicine (in fields such as immunology, cell biology, embryology, stem cell biology, bioinformatics, genetics, epigenetics, virology, neurobiology and cancer biology, treatment and prevention), as well as in Ecology and Biodiversity (in fields such as biogeography, conservation, community ecology, behavioural ecology, movement ecology, bioacoustics, phylogeography, systematics and evolutionary biology).
2. High quality and up-to-date postgraduate education and research training in Biomedicine and Biodiversity, through Master and Doctorate degrees.
3. Contribution to the public understanding of Biology, Biomedicine, Ecology and Biodiversity in Cyprus.

## Postgraduate Programmes

M.Sc. and Ph.D. Degrees in Biomedical Sciences, as well as the Ph.D. in Biodiversity and Ecology encompass classroom training and a strong experimental/laboratory-based research component. In contrast, the M.Sc. in Molecular Biology and Biomedicine does not involve laboratory-based research. The M.Sc. in Biodiversity and Ecology offers a research-based or a literature-based thesis component. Applicants who join this programme of study, will be offered one of these two options upon acceptance to the programme.

## Admission to the Postgraduate Programmes

The Department announces positions for each of its postgraduate degrees twice a year, after approval by the relevant authorities of the University: in October for entry

the following January and in February for entry the following September. All applications must be submitted online.

Students who apply for a laboratory-based research degree are strongly encouraged to contact departmental faculty members prior to, or during their application process to discuss the possibility of securing a laboratory position for thesis research and to be able to select which laboratory that best fits their interests. Upon acceptance to the laboratory-based research degrees, all students should have already identified a faculty member that would agree to supervise them for the laboratory component of their research work.

In addition to the general requirements, candidates are encouraged to start the admission procedure before the completion of their undergraduate study. However, they must hold an undergraduate degree by the start of the postgraduate programme.

The Department recommends that applicants to the Ph.D. programmes hold a Master's degree, or expect to obtain it by the start of their Ph.D. However, the Department may accept candidates for Ph.D. degrees who do not hold a Master's degree. Candidates who have already obtained a Master's degree from the University of Cyprus or another recognised university, may be exempted from some or all of the required courses on a case-by-case evaluation.

For further information on the application procedures and deadlines, please visit the Department's website or contact the Department Secretariat or the Graduate School of the University of Cyprus.

## MASTER DEGREE IN MOLECULAR BIOLOGY AND BIOMEDICINE

The Master Degree in Molecular Biology and Biomedicine does not involve a laboratory-based research dissertation. To obtain this degree, candidates must successfully complete 90 ECTS (European Credit Transfer and Accumulation System) as follows:

The course BIO 680 (Scientific Methodology in Molecular Biology) carries 20 ECTS and is compulsory. Students are eligible to sign up for this course after they have successfully completed 70 ECTS of coursework. Seminar attendances (BIO 800 and BIO 801) in separate semesters are also compulsory, along with seminar BIO 805 (Table A). The remaining 70 ECTS are fulfilled with restricted elective courses (Table B).

The duration of study is at least three semesters with a maximum of eight semesters. Students enrolled in this Master degree are eligible to apply for a change of Master degree as stipulated by the Postgraduate Studies Regulations. The application is subject to approval by the

Department's Committee of Postgraduate Studies and the Departmental Council.

For more information, please consult the Department Secretariat or the Graduate School of the University of Cyprus.

**TABLE A**

	ECTS
<b>Compulsory Courses (Master in Molecular Biology and Biomedicine)</b>	
BIO 680 Scientific Methodology in Molecular Biology	20
BIO 800 Postgraduate Seminar series I	0
BIO 801 Postgraduate Seminar series II	0
BIO 805 Search and Management of Bibliographic Sources	0

**TABLE B**

	ECTS
<b>Restricted Elective Courses (Master in Molecular Biology and Biomedicine)</b>	
BIO 610 Special Topics in Human Molecular and Medical Genetics I	10
BIO 620 Selected Topics in Cell Biology	10
BIO 630 Nucleic Acids	10
BIO 640 Molecular Biology I	10
BIO 650 Special Topics in Bioinformatics	10
BIO 660 Developmental Genetics: Embryos, Cells and Genes	10
BIO 670 Imaging in Biological Sciences	10
BIO 690 Special topics in Current Biological Sciences I	10
BIO 691 Special topics in Current Biological Sciences II	10
BIO 710 Special Topics in Human Molecular and Medical Genetics II	10
BIO 720 Special Topics in Biochemistry	10
BIO 730 Molecular Diagnostics	10
BIO 740 Cellular Communication	10
BIO 750 Cancer Biology	10
BIO 760 Topics in Genomics and Proteomics	10
BIO 850 Experimental Embryology Course	10
BIO 860 Molecular Biology of Tumour Viruses	10
BIO 869 Current topics in Drosophila Biology	10
BIO 870 Molecular Biotechnology	10
MAS 666 Biostatistics	10

### MASTER DEGREE IN BIOMEDICAL SCIENCES

For the completion of the Master Degree in Biomedical Sciences, 90 ECTS are required, 60 of which are fulfilled with restricted elective courses (Table C), as well as the two seminar classes (BIO 800 and BIO 801) in two separate semesters, which are also compulsory along with seminar BIO 805 (Table D). Another requirement is to carry out a compulsory laboratory-based research dissertation with a duration of at least one semester and which carries 30 ECTS (Table D). Upon completion, this dissertation will be written

(M.Sc. thesis) and presented in the form of an open seminar. Candidates must also successfully pass an oral examination before a three-member Special Examinations Committee. They will be examined mainly on their research dissertation, as well as on subjects they were taught during the courses they undertook as part of the requirements for this degree.

The duration of study is at least three semesters with a maximum of eight semesters. Students enrolled in this degree are eligible to apply for a change of Master degree as stipulated by the Postgraduate Studies Regulations. The application is subject to approval by the Department's Committee of Postgraduate Studies and the Departmental Council.

**TABLE C**

	ECTS
<b>Restricted Elective Courses (Master in Biomedical Sciences)</b>	
BIO 610 Special Topics in Human Molecular and Medical Genetics I	10
BIO 620 Selected Topics in Cell Biology	10
BIO 630 Nucleic Acids	10
BIO 640 Molecular Biology I	10
BIO 650 Special Topics in Bioinformatics	10
BIO 660 Developmental Genetics: Embryos, Cells and Genes	10
BIO 670 Imaging in Biological Sciences	10
BIO 690 Special Topics in Current Biological Sciences I	10
BIO 691 Special Topics in Current Biological Sciences II	10
BIO 710 Special Topics in Human Molecular and Medical Genetics II	10
BIO 720 Special Topics in Biochemistry	10
BIO 730 Molecular Diagnostics	10
BIO 740 Cellular Communication	10
BIO 750 Cancer Biology	10
BIO 760 Topics in Genomics and Proteomics	10
BIO 780 Independent Study I	10
BIO 790 Independent Study II	10
BIO 850 Experimental Embryology Course	10
BIO 860 Molecular Biology of Tumour Viruses	10
BIO 869 Current Topics in Drosophila Biology	10
BIO 870 Molecular Biotechnology	10
MAS 666 Biostatistics	10

**TABLE D**

	ECTS
<b>Compulsory Courses (Master in Biomedical Sciences)</b>	
BIO 600 Continuation of Master Research Dissertation in Biomedical Sciences	1
BIO 800 Postgraduate Seminar series I	0
BIO 801 Postgraduate Seminar series II	0
BIO 805 Search and Management of Bibliographic Sources	0
BIO 830 Master Research Dissertation in Biomedical Sciences	30

## MASTER DEGREE IN BIODIVERSITY AND ECOLOGY

For the Master Degree in Biodiversity and Ecology, 90 ECTS are required, which can be fulfilled by either taking 60 ECTS in elective courses (at least 30 ECTS from Table E and the remainder from Table F). In addition, seminar attendance (BIO 800 and BIO 801) in two separate semesters is compulsory, along with seminar BIO 805 and the laboratory-based or field-based research dissertation (BIO 831) whose duration is at least one semester and which carries 30 ECTS (Table G). Upon completion, the dissertation will be presented in the form of an open seminar, followed by an oral examination before a three-member Special Examinations Committee.

Students will alternatively be able to enroll without the need of securing a research laboratory position. In this case, students must take 70 ECTS in elective courses (at least 30 ECTS from Table E and the remainder from Table F). Students must also sign up for a literature-based dissertation (BIO 681), which involves undertaking a bibliographical study and which carries 20 ECTS (Table H). Seminar attendance (BIO 800 and BIO 801) in two separate semesters, as well as BIO 805 is also mandatory (Table H).

The duration of study is at least three semesters with a maximum of eight semesters. Students enrolled in this Master are eligible to apply for a change from research-based to literature-based thesis (and vice versa) as stipulated by the Postgraduate Studies Regulations. The application is subject to approval by the Department's Committee of Postgraduate Studies and the Departmental Council.

**TABLE E**

	ECTS
<b>Elective Courses (at least 3 courses from Table E) (Master in Biodiversity and Ecology)</b>	
BIO 861 Advanced Issues in Ecology	10
BIO 862 Biodiversity Patterns	10
BIO 863 Selected Topics in Behavioural Ecology	10
BIO 864 Biodiversity of Cyprus	10
BIO 865 Geographical Information Systems and Remote Sensing in Ecology	10
BIO 866 Marine Ecology	10
BIO 867 Selected Topics in Evolutionary Biology	10
BIO 868 Fieldwork	10

**TABLE F**

	ECTS
<b>Restricted Elective Courses (Master in Biodiversity and Ecology)</b>	
BIO 610 Special Topics in Human Molecular and Medical Genetics I	10
BIO 620 Selected Topics in Cell Biology	10

BIO 630 Nucleic Acids	10
BIO 640 Molecular Biology I	10
BIO 650 Special Topics in Bioinformatics	10
BIO 660 Developmental Genetics: Embryos, Cells and Genes	10
BIO 670 Imaging in Biological Sciences	10
BIO 710 Special Topics in Human Molecular and Medical Genetics II	10
BIO 720 Special Topics in Biochemistry	10
BIO 730 Molecular Diagnostics	10
BIO 740 Cellular Communication	10
BIO 750 Cancer Biology	10
BIO 760 Topics in Genomics and Proteomics	10
BIO 780 Independent Study I	10
BIO 790 Independent Study II	10
BIO 850 Experimental Embryology Course	10
BIO 860 Molecular Biology of Tumour Viruses	10
MAS 653 Generalized Linear Models	10
MAS 657 Analysis of Discrete Data	10
MAS 658 Simulation and Statistical Data Analysis	10
MAS 659 Multivariate Analysis	10
MAS 666 Biostatistics	10
CEE 581 Environmental Threat Assessment	10

**TABLE G**

	ECTS
<b>Compulsory Courses for Research-based thesis</b>	
BIO 601 Continuation of Master Research Dissertation in Biodiversity and Ecology	1
BIO 800 Postgraduate Seminar series I	0
BIO 801 Postgraduate Seminar series II	0
BIO 805 Search and Management of Bibliographic Sources	0
BIO 831 Master Research dissertation in Biodiversity and Ecology	30

**TABLE H**

	ECTS
<b>Compulsory courses for Literature-based thesis</b>	
BIO 681 Scientific Methodology in Biodiversity and Ecology	20
BIO 800 Postgraduate Seminar series I	0
BIO 801 Postgraduate Seminar series II	0
BIO 805 Search and Management of Bibliographic Sources	0

## DOCTORATE DEGREE IN BIOMEDICAL SCIENCES OR IN BIODIVERSITY AND ECOLOGY

Those enrolled in one of the two Ph.D. degrees must complete 80 ECTS in non-research postgraduate courses (Restricted Elective Courses in either Table I or J, depending on the Ph.D. degree) and attend the Postgraduate Seminar series of the Department (BIO 800-803) for at least four semesters (Table K). Incoming students who already hold a Master degree in a relevant scientific area or who have

attended postgraduate classes in relevant subjects (in this or other recognized universities) can be exempted from taking courses up to 80 ECTS. This requires the submission of an application (in consultation with their research supervisor) at the beginning of their studies to the Department's Committee of Postgraduate Studies that is subject to approval by this committee and the Departmental Council.

After the completion of the postgraduate courses (excluding the Postgraduate Seminars), students will have to pass the Comprehensive Examination (BIO 810, Table K). This will involve preparation and presentation of a research proposal in an area different from that of their Ph.D. research dissertation. Students officially become Ph.D. candidates after successful completion of the Comprehensive Examination, which must be completed between the third and the seventh semester. Another requirement for obtaining the Ph.D. degree is the preparation and successful presentation of a research proposal regarding the Ph.D. research dissertation itself (BIO 811 Ph.D. Research Proposal in Table K). Successful completion of the Comprehensive Examination (BIO 810) is also a prerequisite for the presentation of Research Proposal regarding their Ph.D. Research Dissertation (BIO 811), which has to be presented at least one calendar year prior to the expected date of the Ph.D. thesis defence. Both the Comprehensive Examination (BIO 810) and the Ph.D. research proposal (BIO 811) must include a detailed description of the aims and methodology and must adhere to guidelines and regulations of the Department. Each of these proposals will be presented before a three-member committee.

After the successful completion of the courses (the aforementioned Restricted Elective Courses that collectively amount to 80 ECTS), and while they are carrying out their Ph.D. research, Ph.D. candidates are obliged to enrol every semester in the appropriate research stage of their Ph.D. (BIO 820-828 Ph.D. Research Stages I-IX, Table M). Upon completion of their research work, students must enrol in at least one 'Write-up Stage' (BIO 835 - BIO 842 Thesis Write-up Stages I-V, Table M) before defending their Ph.D. thesis.

For the evaluation of the progress of their Ph.D. research work, each Ph.D. Candidate must give an oral presentation before a three-member committee regarding their research progress, within one year of their successful completion of the Research Proposal and on a yearly basis afterwards (BIO 812-818 Annual Progress Report I-VII). This committee will serve as an Advisory Committee of the candidate, as stipulated by the internal regulations of the Department.

The Ph.D. thesis defence takes place before a five-member Examination Committee (for details on the composition of the Committee, please consult the Postgraduate Studies Regulations of the Graduate School of the University of Cyprus). In addition, prior to submission of the Ph.D. thesis

dissertation, the Department requires that every Ph.D. candidate has at least one first-author publication (or accepted for publication) of innovative research work for their Ph.D. in a peer-reviewed internationally recognized scientific journal.

**TABLE I**

	ECTS
<b>Restricted Elective Courses (Ph.D. in Biomedical Sciences)</b>	
BIO 610 Special Topics in Human Molecular and Medical Genetics I	10
BIO 620 Selected Topics in Cell Biology	10
BIO 630 Nucleic Acids	10
BIO 640 Molecular Biology I	10
BIO 650 Special Topics in Bioinformatics	10
BIO 660 Developmental Genetics: Embryos, Cells and Genes	10
BIO 670 Imaging in Biological Sciences	10
BIO 690 Special topics in Current Biological Sciences I	10
BIO 691 Special topics in Current Biological Sciences II	10
BIO 710 Special Topics in Human Molecular and Medical Genetics II	10
BIO 720 Special Topics in Biochemistry	10
BIO 730 Molecular Diagnostics	10
BIO 740 Cellular Communication	10
BIO 750 Cancer Biology	10
BIO 760 Topics in Genomics and Proteomics	10
BIO 780 Independent Study I	10
BIO 790 Independent Study II	10
BIO 850 Experimental Embryology Course	10
BIO 860 Molecular Biology of Tumour Viruses	10
BIO 869 Current topics in Drosophila Biology	10
BIO 870 Molecular Biotechnology	10
MAS 666 Biostatistics	10

**TABLE J**

	ECTS
<b>Restricted Elective Courses (Ph.D. in Biodiversity and Ecology)</b>	
BIO 630 Nucleic Acids	10
BIO 650 Special Topics in Bioinformatics	10
BIO 670 Imaging in Biological Sciences	10
BIO 780 Independent Study I	10
BIO 861 Advanced Issues in Ecology	10
BIO 862 Biodiversity Patterns	10
BIO 863 Selected Topics in Behavioural Ecology	10
BIO 864 Biodiversity of Cyprus	10
BIO 865 Geographical Information Systems and Remote Sensing in Ecology	10
BIO 866 Marine Ecology	10
BIO 867 Selected Topics in Evolutionary Biology	10
BIO 868 Fieldwork	10

BIO 790 Independent Study II	10
MAS 653 Generalized Linear Models	10
MAS 657 Analysis of Discrete Data	10
MAS 658 Simulation and Statistical Data Analysis	10
MAS 659 Multivariate Analysis	10
CEE 581 Environmental Threat Assessment	10

TABLE K

	ECTS
<b>Compulsory Courses (Ph.D. in Biomedical Sciences or Ph.D. in Biodiversity and Ecology)</b>	
BIO 800 Postgraduate Seminar series I	0
BIO 801 Postgraduate Seminar series II	0
BIO 802 Postgraduate Seminar series III	0
BIO 803 Postgraduate Seminar series IV	0
BIO 810 Comprehensive Examination of Ph.D. students	0
BIO 811 Ph.D. Research Proposal	0

TABLE L

	ECTS
<b>Annual Progress Report (Ph.D. in Biomedical Sciences or Ph.D. in Biodiversity and Ecology)</b>	
BIO 812 Annual Progress Report I	0
BIO 813 Annual Progress Report II	0
BIO 814 Annual Progress Report III	0
BIO 815 Annual Progress Report IV	0
BIO 816 Annual Progress Report V	0
BIO 817 Annual Progress Report V	0
BIO 818 Annual Progress Report VII	0

TABLE M

	ECTS
<b>Research and Thesis Write-up (Ph.D. in Biomedical Sciences and Ph.D. in Biodiversity and Ecology)</b>	
BIO 820 Ph.D. Research Stage I	30
BIO 821 Ph.D. Research Stage II	30
BIO 822 Ph.D. Research Stage III	30
BIO 823 Ph.D. Research Stage IV	30
BIO 824 Ph.D. Research Stage V	30
BIO 825 Ph.D. Research Stage VI	30
BIO 826 Ph.D. Research Stage VII	30
BIO 827 Ph.D. Research Stage VIII	30
BIO 828 Ph.D. Research Stage IX	10
BIO 835 Ph.D. Thesis Write-up Stage I	30
BIO 836 Ph.D. Thesis Write-up Stage II	30
BIO 837 Ph.D. Thesis Write-up Stage III	10
BIO 838 Ph.D. Thesis Write-up Stage IV	10
BIO 839 Ph.D. Thesis Write-up Stage V	10
BIO 840 Ph.D. Thesis Write-up Stage VI	10
BIO 841 Ph.D. Thesis Write-up Stage VII	10
BIO 842 Ph.D. Thesis Write-up Stage VIII	10

## Course Descriptions

### BIO 610 Special Topics in Human Molecular and Medical Genetics I

The course aims at the study of the human genome and attempts to interpret the molecular basis of inheritance and the contribution of modern genetics to medical pathology. There will be discussions on the following topics: genetic phenomena relating to monogenic and polygenic or multifactorial diseases, the concept of a mutation, and the genetic polymorphisms and genetic variation. Several approaches of genetic diagnosis will be presented including the genetic linkage analysis, and other molecular diagnostic methods, using real examples of diseases in a case-oriented approach for enhanced learning. Special reference will be made to the genetic predisposition and genetic association, to germinal and somatic mutations and description of various inherited cancers, inherited kidney conditions, the hemoglobinopathies, neurogenetics and other major classes of monogenic inherited diseases, including frequent reference to the Cypriot gene pool and Founder effects in the Cypriot population. There will be discussions on ethics and ethical dilemmas concerning the application of genetic investigations and molecular diagnosis.

### BIO 620 Selected Topics in Cell Biology

Cytoskeleton structure and function. Motor proteins as molecular machines for intracellular transport. Axonal transport and neurodegenerative disease. Structural and functional nuclear organisation in higher eukaryotes. Chromosomes, nucleosomes and regulation of gene expression, nuclear membrane, mechanism and regulation of bidirectional nucleoplasmic transport in higher eukaryotes, nuclear bodies. Overview of state-of-the-art methods in cell biology: high resolution fluorescence microscopy, confocal microscopy, FRET, TIRF, AFM and proteomics.

### BIO 630 Nucleic Acids

(Prerequisite: Undergraduate level courses in Biochemistry and Molecular and Cellular Biology)

To register for the course, students must first obtain special approval from the instructor.

The course focuses on the structure and function of nucleic acids (DNA and RNA). The course offers a comprehensive and an up-to-date account of the structures and physical properties of nucleic acids, with special emphasis on the biological function. The course is targeted to graduate-level students specializing in Molecular Biology, Biotechnology and Molecular Genetics. Some key features of the course include topics on technologies used in the study of nucleic acid structure and properties and state-of-the-art nucleic-acid-based biotechnological advances.

### BIO 640 Molecular Biology I

This course requires a good knowledge of the principles of Molecular and Cellular Biology. Emphasis will be placed on the mechanisms that control gene expression in eukaryotes. The following topics will be included: nuclear structure and organisation of DNA and the role of topoisomerases in this organisation; transcription factors and DNA binding motifs; control of transcriptional initiation; activators and repressors; promoters and enhancers; coordinated expression of clusters of genes; termination of transcription, RNA processing; chromatin remodelling (DNA methylation and histone acetylation); micro RNAs and RNA interference.

**BIO 650 Special Topics in Bioinformatics**

This course provides an in-depth discussion of bioinformatics methods and algorithms routinely used in fields such as Molecular Biology, Genetics and Genomics. The main objective of the course is that postgraduate students become aware of the principles on which commonly used bioinformatics tools are based, instead of using applications in a 'black box' fashion. This approach is of utmost importance, both for the rational usage and for the correct assessment of the results obtained by such methods. This will be achieved through a series of lectures and discussion sessions. Students will give oral presentations of selected research papers where usage of Bioinformatics methods has provided significant input to wet-laboratory biological research.

**BIO 660 Developmental Genetics: Embryos, Cells and Genes**

Cellular and genetic aspects of modern Developmental Biology of vertebrates with emphasis on the embryos of humans and experimental animal models such as mice, chicks and frogs. The course is divided into three main parts:

1. Embryology at the cellular level and its clinical implications: key embryonic developmental events, embryological methodologies, the development and role of extraembryonic tissues.
2. Embryology at the genetic level: examples of genetic aspects of embryonic and extraembryonic development. Modern experimental methodologies for assessing gene function during embryogenesis such as transgenesis, gene knockouts (gene targeting by homologous recombination) and gene knockdowns (downregulation of gene function using RNAi).
3. Selected topics in Developmental Genetics. These include embryonic stem cells and trophoblast stem cells. Introduction to Epigenetics in development, the biology and genetics of aging, Evolutionary Developmental Biology.

**BIO 670 Imaging in Biological Sciences**

The optical microscope has undergone a radical transformation. Recent innovations in lasers, chemistry, molecular biology, detectors, computation and optics have propelled the microscope to the cutting edge of modern biology. These complex machines are now the tools of choice for revealing structure and function in biology. This course explores the principles and practice of modern microscopy. It consists of lectures, demonstrations, discussions and laboratory exercises. In addition, students will also be expected to present and discuss keystone primary research papers in class. Starting with basic optical theory, the course advances through transmitted, fluorescence, confocal and finally multiphoton microscopies. The techniques used for live cell imaging will be emphasized as well as the technologies for labelling target molecules. The course will be updated every year to take into account new developments in cell imaging approaches and closely related technologies. It is structured towards a technical understanding of techniques, as once they are mastered they can be applied to almost any cell/tissue system or research project.

**BIO 680 Scientific Methodology in Molecular Biology**

Students are eligible to sign up for this course once they have successfully completed 70 ECTS of coursework. This course aims at students' theoretical training in traditional scientific methodology (Scientific Hypothesis formulation, proof and modification through appropriate experimentation and interpretation of results) as well as in modern data-driven approaches that emerged after the development of high

throughput technologies. The course will include the presentation and analysis of various scientific methods and techniques for the design, execution and presentation of Molecular Biology research. To this end, students will be educated in the critical reading and analysis of published research papers and in the presentation of research results and research proposals to an audience and in writing. Students will analyse a number of original and review articles on a subject in biological sciences that they choose in collaboration with their tutor, as well as study (using special laboratory manuals), the various methods of modern molecular biology, so that they become familiar with routine laboratory methods that molecular biologists use in their research.

**BIO 681 Scientific Methodology in Biodiversity and Ecology**

This course includes the evaluation and analysis of crucial and broad-ranged issues in modern theoretical and experimental research on Ecology and Biodiversity. Students will learn to critically evaluate and analyze scientific publications, as well as to prepare and present a literature review. They will become familiar with scientific writing, the structure of scientific papers, literature citing, statistical analyses, and table and figure preparation. Each student will prepare a bibliographical study on a theme relating to Biodiversity and Ecology, assigned by one of the programmer's instructors (the 'supervisor'). The students' progress will be monitored by reports and questions that they will present to the supervisor. The course will be concluded after an oral presentation and examination of each student's study, in conjunction with the evaluation of the written study by the supervisor. The examination of the oral presentation will be made by two instructors of the programme (one being the supervisor).

**BIO 690 Special Topics in Current Biological Sciences I**

The course will focus on specific areas of current interest, approaching the material through lectures and reading of primary literature. Topics in the course will vary between semesters but may include in-depth analysis of specialized areas of biology, advances in methodology, novel applications, etc. Emphasis will focus on developing skills relevant to careers in biology, such as the ability to analyse, discuss, and present primary sources.

**BIO 691 Special Topics in Current Biological Sciences II**

The course will focus on specific areas of current interest, approaching the material through lectures and reading of primary literature. Topics in the course will vary between semesters but may include in-depth analysis of specialized areas of biology, advances in methodology, novel applications etc. Emphasis will be given on developing skills relevant to careers in biology, such as the ability to analyse, discuss, and present primary sources.

**BIO 710 Special Topics in Human Molecular and Medical Genetics II**

Presentation of various selected classes of inherited conditions concerning different human systems such as Nephrogenetics, Neurogenetics, Cardiac genetics, Connective tissue conditions, Cytogenetics and others. Emphasis will be given on contemporary methods of detecting genes that are responsible for or contribute to the development of multifactorial diseases such as Diabetes, Cardiovascular conditions, several cancers, Chronic Kidney Disease, etc. There will be discussion of the role of the newly described findings concerning miRNAs, Copy Number Variations (CNVs) and DNA and histone methylation in the development or the influence of the clinical presentation of

various diseases. There will be frequent reference to the recent literature, both reviews and original publications, while students will also be given an opportunity to present their own research in coordination with their tutor.

#### **BIO 720 Special Topics in Biochemistry**

Presentation of selected topics in biochemical processes and their potential involvement in disease progression. Examples of topics to be covered are post-translational protein modifications, signal transduction and signalling pathways, receptors and receptor mediated endocytosis, hormonal regulation of metabolism and others. These and other topics will be taught using classical textbooks, recent publications of original work, and review articles in scientific journals.

#### **BIO 730 Molecular Diagnostics**

Presentation of the available techniques for routine molecular diagnostic methodology in a clinical set up. Commonly used techniques will be presented and their strengths and limitations discussed. Such techniques include: DNA and RT-PCR sequencing, PCR and restriction digests, Single Strand Conformation Polymorphism analysis (SSCP), Primer/ restriction digest engineering, Denaturing Gradient Gel Electrophoresis (DGGE), Single Nucleotide Primer Extension, Allele Specific Amplification, Denaturing High Pressure Liquid Chromatography (DHPLC).

#### **BIO 740 Cellular Communication**

Tissue architecture and general principles of cellular communication, types of junctions and adhesive structures and molecules, extracellular matrix. Signalling molecules, membrane and intracellular receptors, signalling cascades and signal transduction, cellular responses. G-protein-linked membrane receptors, cAMP, PKA, phospholipase C, IP3, diacyl-glycerol, PKC, CaM kinase, olfactory receptors and photoreceptors. Enzyme-linked membrane receptors, Ras, MAP, PI3, Src, jak-STAT. Notch, Wnt, Hedgehog and NF-IB pathways. Cellular communication and regulation of gene expression. Neuronal communication, small molecule and neuropeptide neurotransmitters, action potential-ionic hypothesis, neurotransmitter/ion receptors. Molecular mechanisms of synaptic long-term potentiation (LTP).

#### **BIO 750 Cancer Biology**

The course consists of a series of lectures and group discussions on special topics concentrating on the molecular principles of carcinogenesis as well as on the mechanisms of cancer initiation promotion, progression, invasion and metastasis. The lectures will focus on oncogenes (with emphasis on Ras and Src), tumour suppressor genes (with emphasis on p53 and Rb), growth factors, cell survival and death (with emphasis on apoptosis) and angiogenesis. One of the major goals of this course is to inspire the students and teach them how this knowledge can be applied in targeted therapeutics, personalized medicine, and the rational treatment of cancer. Students will be asked to review and evaluate in writing original relevant scientific articles and to discuss them in class. Moreover, students will work in groups in order to prepare a project on an assigned topic, which will then be presented in class at the end of the semester. Prerequisite: Good knowledge of molecular and cellular biology and molecular genetics.

#### **BIO 760 Topics in Genomics and Proteomics**

Genome Projects of model organisms: lessons learned through the use of novel technology about the structure, functional organization and the evolution of genetic information. The

postgenomic era and the challenge of deciphering gene product function through the use of next generation sequencing, DNA microarrays, high throughput gene expression analysis, protein and antibody arrays and high throughput protein-protein interactions.

#### **BIO 780 Independent Study I**

#### **BIO 790 Independent Study II**

Bibliographical in-depth research essay on front-line research topics that are relevant to the content of the postgraduate curriculum. The student is expected to make use of original and review publications in international journals and prepare a written report of 25-30 pages. Two such essays per semester are generally required. In order to sign up for the course, students must first obtain the written approval of their academic and research advisors and the supervising faculty.

#### **BIO 800 Postgraduate Seminar I**

#### **BIO 801 Postgraduate Seminar II,**

#### **BIO 802 Postgraduate Seminar III**

#### **BIO 803 Postgraduate Seminar IV**

The students are expected to attend a series of lectures, at which invited speakers present research work in the field of Biological Sciences.

#### **BIO 805 Search and Management of Bibliographic Sources**

The seminar which is carried out by the Library of University Cyprus in collaboration with the Department of Biological Sciences, is designed to introduce students to electronic information services that offered by the Library of University Cyprus as well as techniques and strategies of searching bibliographic databases and library catalogues via the use of Boolean operators. The use of software package "RefWorks" is discussed, as a tool for the gathering, storing and managing bibliography and citations. Successful completion of this seminar is a pre-requisite for Master thesis courses. The course is offered every spring semester.

#### **BIO 810 Comprehensive Examination**

The processes of conducting and evaluating the Comprehensive Examination follow the internal regulations of the Department which are posted on the departmental website, as well as the Postgraduate Studies Regulations of the University of Cyprus.

#### **BIO 811 Research Proposal**

The Ph.D. candidate must submit and present the Research Proposal according to the internal regulations of the Department, which are posted on the departmental website, as well as the Postgraduate Studies Regulations of the University of Cyprus.

#### **BIO 812 Annual Progress Report I**

#### **BIO 813 Annual Progress Report II**

#### **BIO 814 Annual Progress Report III**

#### **BIO 815 Annual Progress Report IV**

#### **BIO 816 Annual Progress Report V**

#### **BIO 817 Annual Progress Report VI**

#### **BIO 818 Annual Progress Report VII**

(Prerequisite: BIO 811 Ph.D. Research Proposal)

Following the successful submission of their Research Proposal, Ph.D. candidates must present a progress report on a yearly basis. Reports include a written summary (up to 2 pages) and an oral presentation (15-20 minutes) of research progress to be

evaluated by the Advisory Committee. The progress report must be written and presented in English.

The internal regulations of the Department for conducting and for the assessment of the coursework are posted on the departmental website.

#### **BIO 850 Experimental Embryology Course**

The goal of this laboratory course is to introduce vertebrate developmental biology to graduate students who are interested in pursuing a research thesis in the field, emphasizing both classic and contemporary approaches. Students will work with living *Xenopus laevis* material and take active part in the tutorial sessions in order to understand how the fertilized egg can generate, in the *Xenopus* embryo, such a diversity of cell types and complexity of pattern in a period of only a few days. There is special emphasis placed on the observation and manipulation of living material. The laboratory course includes a comprehensive analysis of both oogenesis and early development and is divided into two overlapping parts that combine tutorial and practical approaches. Students will perform "in vitro" fertilization of *Xenopus* eggs and mesoderm and neural induction assays of animal cap explants. Successful induction of the explants is confirmed by morphological, histological and molecular analyses. Finally, students will observe and comment on slides selected to illustrate the organization of the body plan of the amphibian embryo at an early stage of organogenesis. Assigned reading will include materials from *Developmental Biology* by Gilbert and a large number of published manuscripts. Grading will be based on performance during the laboratory exercises, quality of presentations and a final exam.

#### **BIO 860 Molecular Biology of Tumour Viruses**

The course is aimed at students who are interested in gaining a more in-depth knowledge of the principles of virology, with a particular focus on viruses associated with cancer, many of which have a DNA genome. The genomes of viruses and molecular pathways employed in their replication strategies and the completion of their lifecycles including interaction with the cellular machinery will be examined. Strategies of viral replication inadvertently leading to loss of cell cycle control, aberrant cellular differentiation, abrogation of apoptosis, and other processes contributing to carcinogenesis will also be examined (e.g., viruses surveyed will include HPV, EBV, KSHV and others). Current advances in the literature will be studied with a direct examination of experimental techniques used in academic discovery. The course will comprise lectures as well as literature discussions.

#### **BIO 861 Advanced Issues in Ecology**

Lectures on basic principles of Evolutionary Ecology, with emphasis on reproductive and life strategies, intra- and interspecific interactions, population ecology and community assembly. The main methods of sampling and data evaluation will be presented, e.g., qualitative, semi-quantitative and quantitative population and community estimates, recording of environmental variables, sampling, estimation of most important ecological metrics, as well as the main statistical methods for ecological data using examples from real studies. Most methods will also be applied using the respective software. Students will undertake and present essays on selected subjects from the recent literature.

#### **BIO 862 Biodiversity Patterns**

Lectures and essay assignments (selected from modern literature) on biodiversity patterns in space and in time. The

patterns will be set within the framework of ecology and biogeography and related concepts, approaches and methods for the detection of patterns along geographical and other environmental gradients will be examined.

#### **BIO 863 Selected Topics in Behavioural Ecology**

A series of lectures and discussions will address the topic chosen for the semester, examining the literature on a particular theme, with a focus on transformative and multidisciplinary research in the field. Examples of topics will include animal communication, sexual selection, migration, social behaviour, and interspecific aggression.

#### **BIO 864 Biodiversity of Cyprus**

This course will focus on the flora and fauna of Cyprus. It will include lectures on the most important elements of Cyprus' biodiversity, as well as an examination of specimens in the laboratory and observations in the field. Students will conduct either a field-based or review-based project on native species of their choice, focusing on conservation, ecology, physiology, evolution and/or taxonomy and systematics.

#### **BIO 865 Geographic Information Systems (GIS) and Remote Sensing in Ecology**

An introduction to Geographic Information Systems (GIS) and remote sensing, with an emphasis on their applications in ecology. The course will involve a research project applying these methods to an ecological study. Students will learn how to incorporate data obtained from remote sensing, such as topographic, vegetational and climatic data, into analyses with geographic coordinates (e.g., from GPS) in GIS software and prepare results for presentation of research findings.

#### **BIO 866 Marine Ecology**

Lectures on basic principles of marine ecology and the special methods used in the field, and discussions on subjects selected from the recent literature. Such subjects may refer, among others, to oceanography, marine pollution, distribution of marine organisms, adaptations for life in the sea, marine productivity, diversity of marine taxa, as well as applied issues, such as fisheries and aquaculture.

#### **BIO 867 Selected Topics on Evolutionary Biology**

A series of lectures and discussions will address the topic chosen for the semester, examining the literature on a particular theme, with a focus on transformative and multidisciplinary research in the field. Examples of topics will include speciation, coevolution, adaptation, and phylogenetics.

#### **BIO 868 Fieldwork**

Students will undertake a fieldwork project, during which they will apply the methods and techniques they have learnt in their classes, in order to execute a short but complete research project. They will apply sampling techniques, either individually or in small groups; they will analyse their findings; and they will present their results to the other students during a special one-day workshop.

#### **BIO 869 Current Topics in Drosophila Biology**

This course will focus on current areas of research in *Drosophila melanogaster*, including stem cells, organ development, growth, regeneration and homeostasis, metabolism and cell signalling, as well as large-scale genomics approaches to developmental

problems. The course will entail a close reading of current literature in the field, as well as topical reviews where appropriate. Students will lead discussions of recent papers of interest, with close attention to experimental approaches in the context of their strengths and limitations, as well as an analysis of conceptual advances to crucial biological problems.

### **BIO 870 Molecular Biotechnology**

(Prerequisite: Undergraduate level courses in Biochemistry and Molecular and Cellular Biology)

To register for the course, students must first obtain special approval from the instructor.

The emergence of molecular biotechnology as a rising field with Life Science and the principles and applications of genetic engineering (recombinant DNA technology) are the overall aims in this graduate course of the Department of Biological Sciences. The course is targeted for graduate-level and advanced-level undergraduate students specializing in Molecular Biology, Biotechnology and Molecular Genetics and requires advanced-level biochemistry and molecular and cellular biology as prerequisites. The course offers a comprehensive and a state-of-the-art account of the fundamentals of molecular biotechnology and its major applications in microbial and eukaryotic systems as well as essential issues of ethics in biotechnology. Some key features of the course include topics in nucleic acid structure and properties, high-tech nucleic-acid-based biotechnological advances, molecular diagnostics, protein therapeutics, nucleic acids as therapeutic agents, vaccines, transgenic animals and societal issues in biotechnology.

## **Research Interests of the Academic Staff**

### **• Yiorgos Apidianakis, Assistant Professor**

#### ***Infectious Diseases and Carcinogenesis Laboratory***

Humans have approximately 10 times more bacterial cells than eukaryotic cells, which are in constant interaction. Thus, to a certain degree, we are biologically defined by bacteria. The revolution in the identification of human microbes and their role in health and disease has already begun. For example, intestinal microbes have been linked to various diseases, such as diabetes and cancer. However the bacterial species responsible for the way they may act to induce disease remain unclear.

Our laboratory studies the identification of bacterial species and the way cancer might be caused. Apart from *Helicobacter pylori*, no other bacterial species has been confirmed as a causative agent of gastrointestinal cancer – the second leading cause of cancer related death in both the United States and Europe. Using the simple model organism, *Drosophila melanogaster*, we recently showed that intestinal bacterial pathogens cause the proliferation of intestinal stem cells, which can be directed by oncogenic mutations towards tumour formation and metastasis.

Using molecular genetics, cellular biology, microbiology and the fundamental knowledge of *Drosophila* as a model organism for human infectious diseases and carcinogenesis, we aim to:

1. Identify signalling pathways that link intestinal infection with tumour formation and metastasis.
2. Identify human intestinal bacteria that either induce or suppress cancer.
3. Identify bacterial factors that induce cancer and their inhibition through therapeutic treatments and special diets.

### **• Andreas Constantinou, Professor**

#### ***Cancer Biology and Chemoprevention Laboratory***

Dr. Constantinou has dedicated his research efforts to the fight against cancer. Shortly after obtaining his Ph.D. degree he made a breakthrough discovery that linked the regulatory subunit of cAMP-dependent Protein Kinase to an enzyme that regulates the three-dimensional form of DNA, known as DNA topoisomerase I. His subsequent research revealed that genistein, a component of soybeans, is a DNA topoisomerase II inhibitor and an inducer of tumour cell differentiation. He identified the molecular mechanisms by which genistein induces apoptosis in breast cancer cells. He has developed assays for the identification and characterization of new cancer therapeutic drugs but he is also strongly interested in the prevention of cancer. His research is designed to test the hypothesis that over 50% of all cancers can be prevented with proper nutrition and lifestyle modifications, and therefore it is possible to identify food components that alone, or in combination, can provide protection against cancer. The focus of his future studies is the identification of new molecular targets for cancer chemoprevention.

### **• Constantinos Deltas, Professor**

#### ***Laboratory of Molecular and Medical Genetics***

Professor Deltas directs the research Laboratory of Molecular and Medical Genetics, which focuses on problems of inherited diseases, as these can be addressed by molecular and cell biology. Over the years he has developed research and diagnostic programs related to inherited kidney disorders as well as other inherited diseases such as Cystic Fibrosis, Familial Mediterranean Fever, Thrombophilia and Inherited Thyroid Cancer. He has published significant findings, including the identification of important phenomena pertaining to Cypriot genetics and the Cypriot gene pool, e.g., several Founder phenomena and geographic clustering of mutations. His laboratory was key to the mapping and cloning of the PKD2 gene, which is mutated in Polycystic Kidney Disease, and he formulated the two-hit hypothesis as a mechanism for cyst formation. His team was the first to map a gene for Medullary Cystic Kidney Disease type 1, and in collaboration with other researchers, especially from London, described a new form of an inherited nephropathy that is endemic in Cyprus (C3/CFHR5 Glomerulopathy). In 2010 the Cyprus Research Promotion Foundation awarded Professor Deltas funding for a Strategic Program (co-funded by the Structural Funds of the European Union) to establish a new research unit, the Molecular Medicine Research Centre, with the following goals:

- Creation of the first large Cypriot Biobank specializing in inherited kidney as well as other genetic disorders that are found among the Cypriot population. Medical doctors and research scientists from Cyprus and abroad collaborate in this programme.
- Identification, within the Greek Cypriot population, of new mutations and new genes (primary and modifier genes) that are responsible for the onset and progression of inherited conditions. The aim is to construct a genetic map of Cyprus and identify all phylogenetic relationships. The flow of genetic material as evidenced by finding specific mutations from foreign conquerors and visitors is part of this work.
- Development of cellular and animal models, the investigation of which will enable the better understanding of the structural and functional properties of Collagen type IV, which is a crucial component of Glomerular Basement Membrane. The role of

micro RNAs and other modifier genes are among the primary interests of Professor Deltas's team. A new Alport Syndrome mouse model he created recently is under investigation for deciphering the pathomechanisms for disease development and for using chemical chaperones as new therapeutics in preclinical studies.

• **Pantelis Georgiades, Associate Professor**

**Laboratory of Embryology and Stem cells**

Dr Georgiades's research focusses on three main themes:

- (a) The investigation of cellular and genetic basis of the early embryonic processes that lead to organogenesis, such as gastrulation and neurulation, with emphasis on the newly discovered, but poorly understood role extraembryonic tissues. Understanding how embryos make organs is expected to lead to in vitro organogenesis and to revolutionize regenerative medicine.
- (b) The use of stem cells from both embryonic (e.g., epiblast stem cells) and extraembryonic (e.g., trophoblast stem cells) tissues in order to understand their behaviour, differentiation and capabilities at the genetic and cellular levels, and their relation to regenerative medicine.
- (c) The investigation of placenta development itself, as well as its interactions with the mother during pregnancy for the understanding of the genetic and cellular factors responsible for embryo viability, growth and a healthy pregnancy. This is expected to lead to treatments for the most common, but still incurable, pregnancy complications including preeclampsia and infertility due to early unexplained miscarriages.

The research of the laboratory combines cutting-edge embryological, genetic, epigenetic, cellular and molecular methodologies such as culture and microsurgery of mouse embryos, the use of transgenic mice, stem cell culture and manipulation, gene inactivation or overexpression in mouse embryos and stem cells, RNA in situ hybridization, histology, immunohistochemistry and various DNA methodologies.

• **Alexander Kirschel, Assistant Professor**

**Behavioural Ecology and Evolution Laboratory**

The Behavioural Ecology and Evolution Laboratory examines how ecology, behaviour, and biogeography explain patterns of biodiversity. We are particularly interested in understanding how interactions between related species are affected by resource and interference competition, sexual selection, and genetic relatedness, and how these interactions relate to patterns of phenotypic evolution and species distributions.

We have a number of projects focusing on different aspects of these themes, including research on interactions between related species of birds in sub-Saharan Africa, interactions at the community level between species in Neotropical rainforests, and impacts on endemic species, conservation of interactions between species in Cyprus. We examine patterns of phenotypic variation in traits such as acoustic signals, and in particular song, plumage coloration and morphology, as well as differentiation in genetic markers between populations. We also use experimental methods to determine the impact of phenotypic variation on evolutionary diversification. Research in the Behavioural Ecology and Evolution Laboratory typically involves extensive work in the field, where animals can be observed in their natural environment. It also examines how genetic variation corresponds with phenotypic variation, and geographic studies

incorporating use of remote sensing and GIS to relate species distributions and phenotypes to the environment.

• **Leondios Kostrikis, Professor**

**Laboratory of Biotechnology and Molecular Virology**

The Laboratory of Biotechnology and Molecular Virology (BMV) has been a part of the Department of Biological Sciences at the University of Cyprus since 2004. For the last twenty years, our research has concentrated almost exclusively on the study of human immunodeficiency virus type-1 (HIV-1). Our laboratory uses a variety of experimental approaches in order to understand the molecular mechanisms of HIV-1 transmission and the pathogenesis of AIDS. Over the years our research activity mainly includes studies on (i) determining the global genetic diversity and immunological responses of HIV-1; (ii) understanding the implications of chemokine receptor polymorphisms in the transmission of HIV-1 and disease progression; (iii) understanding the evolutionary dynamics of HIV-1 drug resistance in patients treated with effective anti-retroviral therapy; and (iv) defining the role of the cellular HIV-1 DNA load in the pathogenesis of HIV-1 infection and progression of HIV-1 disease. Our intention is to continue the study of HIV-1 epidemiology and natural history, the detection of further virus variants and their possible association with characteristic clinical conditions, investigate further viral quasispecies and try to identify differences in their capacity to effect virus replication or pathogenesis. Our main future aims include ongoing studies on (i) understanding the molecular epidemiology of HIV-1 infection in Cyprus and in Europe; (ii) understanding the implications of non-B HIV-1 variants in determining deviations in drug responses and development of drug resistance; and (iii) developing improved methods for production of novel immunogens and original strategies to induce mucosal immunity. A major part of our research is conducted in collaboration with an international multi-disciplinary network of colleagues, consisting of molecular biologists, immunologists, human geneticists, molecular biophysicists, clinical microbiologists, virologists and epidemiologists. Such collaborations will involve the provision of clinical material, exchange of reagents or having members of their staff carry out research work in my laboratory, as in the past. In the course of these studies, we hope to contribute to the development of drugs and vaccines that target HIV as well as other diseases.

• **Antonis Kirmizis, Assistant Professor**

**Laboratory of Epigenetic Gene Regulation**

In every eukaryotic cell the genome is packaged into chromatin (the DNA/histone protein complex), whose structure can regulate the transcription of DNA. Post-translational modifications placed on histone proteins, such as methylation, acetylation and phosphorylation, can influence the configuration of chromatin and ultimately control DNA accessibility by the transcriptional machineries. Several cellular enzymes have been discovered that can deposit or remove modifications on histones. Therefore, histone-modifying enzymes and their underlying modifications play a crucial role in the regulation of gene expression. Driven by the fact that many of these histone modifiers are frequently mutated or lost in human cancer, our group is interested in understanding the molecular mechanisms employed by these enzymes and their underlying modifications during gene regulation. Of particular interest to our research are the enzymes that methylate arginine residues on histone proteins known as protein arginine methyltransferases (PRMTs). Our previous work has begun to unravel the precise molecular mechanisms by

which histone arginine methylation and the associated PRMTs modulate gene activity 1,2. To further our knowledge of this epigenetic mode of gene regulation our current work is focused on three main areas:

1. Identify and characterise novel regulators of histone arginine methylation.
2. Investigate the mechanistic link among histone arginine methylation, PRMTs and the development of cancer.
3. Identify non-histone substrates of PRMTs and determine the biological function of these novel methylated arginines.

In order to accomplish our research goals we employ interdisciplinary approaches such as molecular biology, biochemical, genetic, genomic and proteomic techniques using both mammalian and yeast cells as model systems. Our long-term goal is to apply the information acquired on the basic biology of histone arginine methylation and PRMTs towards the development of therapeutic targets and diagnostic tools for cancer.

• **Chrysoula Pitsouli, Assistant Professor**  
*Drosophila Development and Homeostasis Laboratory*

We are using the fruit fly, *Drosophila melanogaster*, as a model of organ remodeling during development, homeostasis and disease. Fruit flies have an extensive tubular network called trachea that functions as both their lungs and their blood vessels, and transports gases and oxygen throughout their bodies via terminal tracheal cells. Similar to human lungs and blood vessels, the *Drosophila* tracheal system arises from epithelial progenitors that proliferate, differentiate, migrate and ramify in order to generate a complex network of interconnected tubes. Furthermore, the tracheal system undergoes remodeling in response to developmental and environmental signals, such as secreted growth factors and tissue hypoxia that activate conserved cellular programs. If these remodeling programs fail or become hyperactive, disease occurs and viability is compromised, similar to humans.

Our lab uses genetic, molecular and biochemical methods, as well as state-of-the art microscopy in order to study the *Drosophila* trachea aiming to identify novel genes and signalling pathways that control development and remodelling of mammalian lungs and blood vessels. We have established a model of developmental tracheal remodeling with similarities to lung development, as well as, a model of disease-induced tracheal remodeling with similarities to cancer angiogenesis. Using microarray profiling we identified the conserved Notch and Wingless/Wnt signaling pathways as key regulators of developmental remodeling through their action on the conserved transcription factor Cut. In addition, we have characterized the tracheal system of the adult *Drosophila* intestine and found extensive tracheal remodeling in response to bacterial infection, inflammation and cancer. This "neotracheogenesis" process is driven by the conserved Hif1a/FGF/FGFR pathway and shares striking similarities with cancer-induced neoangiogenesis.

Our current efforts in the lab aim to:

1. Identify novel regulators of proliferation, differentiation and migration of tracheal progenitors during developmental remodeling.
2. Identify novel regulators of hypoxia-induced tracheal terminal cell remodelling

3. Identify regulators of intestinal neotracheogenesis during inflammation and cancer.
4. Assess the effect of tumor genetics in tracheal remodeling and cancer progression.

• **Vasileios Promponas, Assistant Professor**  
*Bioinformatics Research Laboratory*

The research activities of the Bioinformatics Research Laboratory are mainly oriented towards the interpretation of large-scale genomic data and the use of computational methods in order to reveal the principles governing the molecular basis of life. We are mainly interested in the elucidation of protein sequence to structure/function relationships using sequence similarity, statistical and machine learning techniques. In particular, our research focuses on:

1. Sequence repeats, low complexity/compositionally biased regions: Investigation of their relation to protein structure and association to protein (mis)function. Study of the evolution of protein repeats.
2. Transmembrane and membrane-associated protein topology and structure prediction: Prediction of structural features of membrane proteins. Evolution of transmembrane protein topology / structure / function.
3. Sequence-based structural/functional classification of proteins.
4. Computer-aided and automatic Complete Genome Annotation.

The Bioinformatics Research Laboratory has ongoing collaborations with research groups in Cyprus, Greece and the United Kingdom.

• **Niovi Santama, Associate Professor**  
*Molecular Biology and Biochemistry Laboratory*

The Molecular Biology and Biochemistry Laboratory (MBBLab; www.mbbllab.net) is using molecular, cell biological and biochemical approaches to investigate the mechanisms underlying microtubule-based processes in mammalian cells, aiming at obtaining integrated views of cellular physiology. The MBBLab has been working on different biological questions, such as:

- The role of mitotic motors and their interacting proteins in mitotic spindle assembly and maintenance, and also in mechanisms that regulate centrosome duplication and dynamics in dividing cells.
- The function of molecular motors in axonal transport and synaptic signaling in neurons.
- The investigation of the role of aberrant motor protein function in the molecular pathways that underlie human neurodegenerative disease and specifically amyotrophic lateral sclerosis, a lethal form of motor neuron disease.
- The role of katanin-like proteins and their interacting molecular chaperons in ciliogenesis.

In the framework of this research the laboratory has forged collaborations with research groups in Germany, Belgium, the UK, Singapore, Denmark, Spain, the USA, Greece, Italy and Cyprus.

• **Spyros Sfenthourakis, Associate Professor**  
*Biodiversity Laboratory*

Spyros Sfenthourakis studies distributional patterns of organisms in order to understand how species richness is controlled, how communities are assembled and how living beings are

differentiating through interactions of ecological and evolutionary processes. His research focuses on the study of terrestrial invertebrate communities in island groups and mountain ecosystems, as well as the exploration of general patterns and theories within the wider paradigm of island biogeography. These activities entail both theoretical and applied research in biodiversity conservation.

The differentiation of organisms is approached through a combination of morphological and molecular data, using modern morphometric and phylogeographic analysis methods. There is a special emphasis on the study of endemic species, which are the most vulnerable to the ongoing climate change, as well as on a variety of human activities that transform their habitats. The high endemism and the geographic position of Cyprus offer a unique opportunity for the study of climate change effects on endemic species that live in vulnerable habitats. Such study combines fieldwork, where an extremely detailed distribution of species is recorded and a variety of population and environmental variables are measured, with laboratory work, where polymorphic loci are identified and genealogical and population data are studied. In addition, the distribution of species and environmental variables are analysed using GIS, and species distribution models are explored on the basis of several climate change scenarios.

Therefore, the Biodiversity and Ecology Laboratory offers possibilities for studying a wide range of animal species in their natural habitats, and it also provides an opportunity for molecular techniques to identify and analyse divergence patterns. Furthermore, it allows us to apply a variety of theoretical models and methods to test hypotheses and predictions concerning community assembly and the future distribution of species.

• **Paris A. Skourides, Associate Professor**

**Developmental Biology and Bioimaging Technology Laboratory**

The goal of our research group is to understand the cellular and molecular mechanisms involved in generating the three dimensional organisation of tissues and the overall process by which the basic body plan of vertebrate embryos is established.

During gastrulation cell and tissue movements on a massive scale create great complexity from a very simple starting form, resulting in highly diversified organisms with a precise three dimensional architecture. Elucidating the mechanisms underlying these movements is important, because genetic mutations and environmental insults during gastrulation can lead to significant developmental deformities. A comprehensive understanding of this process and how it is affected by genetic mutations will help develop diagnostic and therapeutic tools for dealing with human developmental disorders. The study of gastrulation and morphogenetic movements has always demanded cutting edge imaging and the pace of discovery in the field has been set by advances in imaging technologies. The complexity of morphogenetic movements together with our inability to image them *in vivo* has forced researchers to study each movement in isolation. Yet if we are to truly comprehend the way morphogenetic movements give rise to form we need to begin the process of integrating what we know back to the embryo and view gastrulation as a unified process rather than individual components.

Our laboratory, with the use of nanotechnology and specifically the application of Quantum Dot nanocrystals, is developing new imaging methods and technologies that enable the study of morphogenesis at the organismal, cellular and molecular level

"*in vivo*". In addition we are exploring the development of new types of nanocrystals and a number of wide ranging applications for Quantum Dots in Biology.

• **Katerina Strati, Assistant Professor**

**Tumor Viruses and Cancer Laboratory**

Our lab is interested in elucidating the mechanisms of carcinogenesis driven by human papillomaviruses (HPVs). HPVs were first associated with cervical cancer due to the detection of HPV DNA in the majority of tumour biopsies. Since then these viruses have been associated with other types of cancer, such as a subset of head and neck cancers and most other anogenital cancers. Expression of the viral proteins E6 and E7 is thought to be required not only for cancer development but also for maintenance. These two proteins mediate their function by interacting with and modulating important cellular factors such as the tumour suppressors p53 and pRb. Thus our study is focused on the viral oncoproteins and their cellular binding partners. Even though the HPV oncoproteins have been abundantly characterized for their interactions with multiple cellular components the mechanisms of tumorigenesis are not conclusively defined.

We employ "*in vivo*" techniques in order to study the function of the viral oncogenes in the tissues that the virus would normally infect. We aim to elucidate the molecular function of E6 and E7 and the mechanisms in which they contribute to carcinogenesis. Details on current projects may be discussed with the laboratory head.

## Contact Details

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# Department of Chemistry



*The Department of Chemistry prides itself in producing highly skilled scientists in the field of Chemistry, capable of responding to current and future challenges in Chemistry at both national and international levels.*

*The Department offers graduate programmes at the Master (M.Sc.) and Doctoral (Ph.D.) levels.*

## **Chemistry Graduate Programme at the University of Cyprus**

At present, 60 postgraduate students are enrolled in the graduate programme, 37 of whom are at the Doctoral level. The Chemistry Department has already awarded 51 Ph.D. degrees and 59 M.Sc. degrees.

### **Admission to the Graduate Programme**

The Department admits graduate students every year at the M.Sc. and Ph.D. levels. The applications are submitted to the Secretariat of the Department and are examined by a three-member faculty Graduate Studies Committee (GSC).

For details on the application procedure and evaluation of candidates, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

In addition to the general application requirements, candidates are requested to submit a cover letter explaining the reasons they wish to enter the Chemistry Graduate Programme and to indicate the research area(s) of their interest(s).

### **Financial Support**

The University of Cyprus provides financial assistance to Chemistry postgraduate students in the form of teaching assistantships. Moreover, the postgraduate students can be supported financially through research programmes in Cyprus or abroad for research work carried out within their Ph.D. or M.Sc. studies.

### **Credit Transfer from other Universities / Previous Studies**

The Chemistry Graduate Programme (M.Sc. and Ph.D. levels) includes both classroom courses and bibliographical studies, totalling 60 ECTS. Doctoral students holding an M.Sc. degree from another university may be credited part or all of the 60 ECTS after examination and recommendation by the GSC and approval by the Departmental Council. Moreover, doctoral students may spend up to one calendar year at universities abroad under student exchange programmes. M.Sc. students may attend courses at

universities abroad corresponding to a maximum of 20 ECTS. Graduate students may be credited with up to 15 ECTS for courses attended within another graduate programme, after examination and recommendation by the GSC and approval by the Departmental Council.

## Master of Science (M.Sc.) Degree

The minimum duration of studies towards an M.Sc. degree is 1.5 years and the maximum duration is 4 years.

### M.Sc. Requirements

To obtain an M.Sc. degree, students must successfully complete 120 ECTS of the M.Sc. Chemistry Graduate Programme, and must write an appropriate Diploma Thesis. The required 120 ECTS are obtained by attending 4 of the courses listed below (10 ECTS each), and 2 Graduate Literature Studies (CHE 800 and CHE 810, 10 ECTS each), while 6 research modules carrying 10 ECTS each are credited through research for the Thesis.

### Course Selection and Approval

M.Sc. students select their courses in agreement with their research supervisors. Course selection must be approved by the GSC.

#### CHE 800 Literature Study

M.Sc. students, in agreement with their research supervisors, must enroll in the graduate literature study CHE 800, in the context of which they are required to select a topic from their wider area of expertise, but not from their direct research area. Students must study this topic and present it in the form of a seminar (10 ECTS). The supervision of CHE 800 is carried out by a Chemistry faculty member, who may be the student's supervisor or another Chemistry professor. The central element in the evaluation of CHE 800 is the proven thorough literature survey on the subject of the study, including the latest developments. The examination and grading of this seminar are conducted, after an open presentation, by a two-member committee.

For details on the examination procedure, the grading system and the presentation of the CHE 800 literature study, students may consult the Department's Secretariat.

#### CHE 810 Literature Study

M.Sc. students, in agreement with their research supervisors, must enroll in the graduate Literature Study CHE 810, in the context of which they are required to select a topic from their immediate research interest (which will be the topic of their Diploma Thesis). Students must study this topic and present it in the form of a seminar (10 ECTS). The student's research supervisor is responsible for supervising CHE 810. The central

elements in the evaluation of CHE 810 are: (a) the proven thorough literature survey on the subject of the study, including the latest developments and (b) the understanding of basic concepts immediately relevant to the content of the study. The examination and grading of this seminar are conducted, after an open presentation, by a two-member committee.

For details about the examination procedure, the grading system and the presentation of the CHE 810 literature study, students may consult the Department's Secretariat.

### M.Sc. Research

The research topic (experimental or theoretical, or a combination of the two) is chosen in agreement with the research supervisor, aiming at the production of new, original knowledge in chemistry. The originality of the research must be based on the research findings of the student and should be separated from the work of others, indicating clearly the student's personal contribution. The Thesis should include a literature survey, a description of the research methods used, a discussion of the results, conclusions, and literature references. The Thesis is defended before a three-member examination committee.

For details on the Thesis defence and the composition of the examination committee, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

## Doctor of Philosophy (Ph.D.) Degree

The minimum duration of studies towards a Ph.D. degree is 3.5 years and the maximum is 8 years.

### Ph.D. Requirements

To obtain a Ph.D. degree, students must successfully complete 240 ECTS of the Doctoral Chemistry Graduate Programme, and must write a Ph.D. Thesis on an approved topic. An essential requirement for the defence of a Ph.D. Thesis is that the student succeeds in the Chemistry Comprehensive Examination, which takes place the latest by the end of the 5th semester. The required 240 ECTS are obtained by attending 4 of the courses (listed below) carrying 10 ECTS each, 2 Graduate Literature Studies (CHE 800 and CHE 810, 10 ECTS each), the Chemistry Department Seminars (CHE 815, 10 ECTS units), while 17 research modules carrying 10 ECTS units each are credited through research for the Ph.D. thesis. Procedures for course selection and the coverage of the Graduate Literature Studies CHE 800 and CHE 810 are the same as those for the M.Sc. Thesis.

### Chemistry Department Seminars

Within CHE 815, Ph.D. students who have passed the Chemistry Comprehensive Examination must attend at least 4 seminars (lectures) per semester for at least 4 semesters. Students must present a seminar within that period. The seminar is graded by a three-member departmental committee appointed by the Chairman of the Department, after the recommendation of the research supervisor. The grade is submitted upon fulfillment of the requirement for attendance at the Departmental Seminars. In case of failure, the student must present a new seminar during the next semester.

### Applies to students who enter the Department after January 2013

Upon their enrollment in the Ph.D. programme, students must register for five semesters, 1 ECTS per semester, for a seminar series (CHE 830 – CHE 834) and attend at least four seminars per semester. Toward the end of their studies, they must register for CHE 835 (5 ECTS) and present a seminar to the Department.

### Ph.D. Research

In addition to the requirements described in the M.Sc. research given above, Ph.D. research should be of very high standard, such that the results are publishable in recognized, peer-reviewed, international research journals. The Chemistry Department demands as a minimum prerequisite towards a Ph.D. degree that candidates have at least one scientific paper either published or accepted for publication in a journal of their research area.

### Ph.D. Comprehensive Examination

This exam, which is an oral examination, should be taken after the student has completed four semesters of graduate studies. Students who already hold an M.Sc. degree from the University of Cyprus or from another university, who have completed all the necessary ECTS and who have produced sufficient research in the first year of studies, may take the Comprehensive Examination at the end of the 2nd semester, at the earliest.

Each student is examined by a three-member committee. The Comprehensive Examination evaluates the level of understanding of the material in the 4 graduate courses that the student attended. The overall research work of the student, as this appears in a written report submitted by the student to the committee, is also evaluated in terms of the level of understanding of the research topic and the quality and quantity of the work.

For more details about the Comprehensive Examination (content of written report, composition and procedure followed by the three-member committee), please consult the Office of Postgraduate Studies, Academic

Affairs and Student Welfare Service (tel.: 22894021/61) or the Department's Secretariat.

### Doctoral Dissertation Proposal

After passing the Ph.D. Comprehensive Examination and at least one year before the final defence of the Ph.D. Thesis, the Doctoral Dissertation Proposal must be successfully presented before a three-member Chemistry-faculty committee. The purpose of the Proposal is to examine whether the students have progressed with their research and to evaluate the quality, quantity and novelty of the research work.

### Ph.D. Thesis Defence

The Ph.D. Thesis is submitted and defended only with written permission of the research supervisor and the subsequent submission of the thesis to the Chairman of the Department. The Department demands as a minimum prerequisite towards a Ph.D. degree that the candidates have at least one scientific paper published or accepted for publication in an international peer-reviewed journal of their own research area. The final examination (defence) of the Doctoral Dissertation is conducted before a five-member examining committee.

For details about the procedure for Ph.D. Thesis defence and the composition of the five-member examining committee, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/61) or the Department's Secretariat.

### Chemistry Graduate Courses (M.Sc. and Ph.D.)

	ECTS
<b>Theoretical Courses</b>	
CHE 610 Physicochemical Methods in Inorganic Chemistry II	10
CHE 611 Physicochemical Methods in Inorganic Chemistry I	10
CHE 612 Physical Chemistry of Polymers	10
CHE 615 Separation Methods and Applications	10
CHE 626 Supramolecular Chemistry	10
CHE 630 Medicinal Chemistry	10
CHE 631 Advanced Organic Chemistry I (Organosulfur and Organonitrogen Chemistry)	10
CHE 636 Organic Reactive Intermediates	10
CHE 638 Methods for Structure Characterization	10
CHE 640 Basic Principles of Colloid Chemistry	10
CHE 650 Computational Chemistry	10
CHE 651 Raman Spectroscopy	10
CHE 654 The Theory of the Chemical Bond	10
CHE 670 Heterogeneous Catalysis	10
CHE 681 Biochemical Engineering	10
CHE 690 Synthesis, Characterization and Technology of Polymers	10
CHE 695 Aquatic Chemistry of Heavy Metals	10

CHE 720 Synthesis and Characterization Methods of Inorganic Compounds	10
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#### Graduate and Department Seminars, Thesis Writing

CHE 800 Literature Study I	10
CHE 810 Literature Study II	10
CHE 815 Chemistry Department Seminars (for Ph.D. level only)	10
CHE 830 Chemistry Department Seminars I	1
CHE 831 Chemistry Department Seminars II	1
CHE 832 Chemistry Department Seminars III	1
CHE 833 Chemistry Department Seminars IV	1
CHE 834 Chemistry Department Seminars V	1
CHE 835 Chemistry Department Seminars VI	5

#### Research and Thesis Writing

CHE 821-826 M.Sc. Research and M.Sc. Thesis Writing	10
CHE 880-896 Ph.D. Research and Ph.D. Thesis Writing	10

## Course Descriptions

### CHE 610 Physical Methods in Inorganic Chemistry II

**Magnetism:** Introduction, Types of Magnetic Behavior, Diamagnetic and Paramagnetic Susceptibility, The Van Vleck Equation, Applications of the Van Vleck Equation to Specific Situations, Curie-Weiss Law, High spin-Low spin equilibrium, Introduction to Neighbor-Neighbor Interactions, Antiferromagnetic Mechanisms, The Heisenberg-Dirac-Van Vleck (HDVV) Approach, Determination of the Values of the Exchange Parameters ( $J$ ) in Dinuclear and Trinuclear Complexes, Ferromagnetic Coupling, Magnetic Properties of High Nuclearity Metal Clusters, Single – Molecule Magnetism Behavior.

**Electron Paramagnetic Spectroscopy (EPR):** Basic Principles, Hyperfine couplings, Experimental parameters that affect the EPR spectra, examples.

**Electrochemistry:** Basic Principles, Classification of Electrochemical techniques, Cyclic Voltammetry, Polarography, Chemical Reaction on Electrodes, Electrochemical study of Metal Complexes (experimental parameters that affect electrochemical studies, evaluation of the redox properties of metal complexes and determination of the experimental parameters from cyclic voltammograms and polarograms – E1/2, EPA, EPC, IPA, IPC,  $n$ , etc-reversible, quasi-reversible and irreversible redox processes, examples).

### CHE 611 Physical Methods in Inorganic Chemistry I

- Group Theory: Symmetry, Geometric transformations, Irreducible representations, Character Tables, Applications of group theory to spectroscopy, Molecular orbitals
- Introduction to Spectroscopy: Transitions of atoms and molecules, Selection rules, Determination of concentration and application in the calculation of equilibrium constant and chemical kinetics, Isosbestic points
- Vibrational Spectroscopy: Vibrations in molecules, 3N-6(5) Rule, Selection Rules, Symmetry of vibrations, Normal coordinate analyses, Absorption bands assignment, Group vibrations, Assignment of vibrations by isotopic enrichment, kinetics of fast reactions, RAMAN spectroscopy, Resonance RAMAN, Fingerprinting, Applications of vibrational spectroscopy in bioinorganic models and metalloenzymes
- Nuclear Magnetism Spectroscopy (NMR): Description of NMR experiment, Bloch equations, pulse NMR, NMR quantum mechanics, Relaxation, Inverse recovery and spin echo

experiment, chemical shift and nuclear coupling, determination of structure base on chemical shift and nuclear coupling, selective excitation, NOE, Multinuclear NMR, Quadrupolar nuclei, Variable temperature (VT), Reaction rate determination by VT, Two dimensional spectroscopy (2D), 2D-J-resolved, 2D-COSY, 2D-HETCOR, 2D-NOESY, 2D-EXSY and 2D-Inadequate spectroscopy, Kinetics Reaction rate determination by 2D and 1D transfer magnetization, Paramagnetic NMR, Structure Determination, Applications

### CHE 612 Physical Chemistry of Polymers

- Differences between small molecules and macromolecules. Characteristic lengths and relaxation times. Variation of structure, tacticity, homo- and co-polymers, stereochemical effects, ternary structure, polyelectrolytes. Molecular weights and their distributions and methods to measure them. Osmotic pressure, vapor pressure, light, X-ray and neutron-scattering, ultracentrifugation, viscosity, size exclusion chromatography
- Theoretical studies of the conformations of polymer chains
- Polymers and solvents. Chemical potential and osmotic pressure. Dilute, semi-dilute and concentrated polymer solutions. Good, bad and theta solvents. Flory's solution theory. De Gennes' scaling models. Phase separation in polymeric systems. Polyelectrolytes in solution
- Amorphous phases of polymers. The rubbery state and the theory of rubber elasticity. Melts. Rouse-Zimm dynamic theory in melts. Reptation theory of De Gennes. Glassy phase and the glass transition. Mechanical properties of solids and elastic polymers and viscoelasticity
- Semicrystalline phases. Crystalline lamellae of polymers and the problem of chain reentry. Spherulites, dendrites and other morphologies, liquid crystalline polymers

### CHE 615 Separation Methods and Applications

The main purpose of this course is to familiarize students with the basic concepts of separation science. It examines a number of chromatographic separation methods and their applications in different areas of industry, medicine, environment, forensic science, food science, etc. The separation methods described in this course are the following:

- Gas Chromatography (gas-solid chromatography, gas-liquid chromatography)
- High-Performance Liquid Chromatography (partition chromatography, adsorption or liquid-solid chromatography, ion exchange chromatography, size exclusion or gel chromatography, thin-layer chromatography)
- Capillary Electrophoresis (capillary isoelectric focusing, capillary gel electrophoresis, capillary isotachopheresis, capillary zone electrophoresis, micellar electrokinetic chromatography, capillary electrochromatography)

### CHE 626 Supramolecular Chemistry

Concepts in Supramolecular Chemistry. Host-guest Chemistry. Energetics of Supramolecular Complexes: Experimental Methods. Templates and Self-assembly. Molecular Channels. Fullerenes and Carbon Nanotubes. Hydrogen-bonded Molecular Capsules. Molecular Vehicles.

### CHE 630 Medicinal Chemistry

Introduction to drugs and their biological targets (proteins, enzymes, receptors, nucleic acids, cell membranes, building blocks). Types of intermolecular interactions. Biologically-active

compound discovery from natural sources and from synthetic compound libraries. Overview of drug development process: Finding a lead, optimizing target interactions and access to target. Quantitative Structure-activity Relationships (QSAR). Pharmacodynamics and Pharmacokinetics. Major classes of drugs: Antibacterial agents and their targets, mechanisms of action. Antiviral agents and the principles of antiviral action, structure and life cycle of representative viruses. Anticancer agents, causes of cancer, targets for anticancer therapies. Cholinergics, anticholinergics, anticholinesterases, receptors in the peripheral nervous system. Drugs acting on the adrenergic nervous system and adrenergic receptors. Opioid analgesics and opioid receptors.

### **CHE 631 Advanced Organic Chemistry I**

(Organosulfur and Organonitrogen Chemistry)

Introduction to the organic chemistry of sulfur; di-, tri-, and tetracoordinate sulfur compounds; organosulfur compounds in natural product chemistry and synthesis; organoselenium compounds. Introduction to the organic chemistry of nitrogen; saturated nitrogen compounds (amines, ammonium compounds and nitrogen bases); unsaturated nitrogen compounds (imines, enamines, amides, nitriles, urethanes, ureas, imides and diimides); nitrogen compounds with N-O or N-N bonds (compounds with N-N bonds, oximes, N-oxides, nitroso compounds, nitro compounds).

### **CHE 636 Organic Reactive Intermediates**

The course examines reactive intermediate compounds of Organic Chemistry and is based on articles from the chemical literature referring to their structure and physicochemical properties and to experimental methods for their preparation, detection and identification. The compounds examined are neutral species (e.g., diradicals, carbenes and nitrenes, strained alkenes) and ions (carbocations, carbanions).

### **CHE 638 Methods for Structure Characterization**

Principles of crystallographic symmetry. Methods of structure solution and the phase problem: Patterson maps, direct methods, methods of structure convergence. Comparison of X-ray, neutron and electron diffraction. Mössbauer spectroscopy. Spectroscopic methods for the characterization of solid surfaces EXAFS, XPS, UPS.

### **CHE 640 Introduction to Colloid Science**

- Matter in the colloidal state. The main types of colloids. Characteristic phenomena in colloid systems and dispersions. Preparation methods for uniform colloids
- Optical properties of colloids. Scattering of light, X-rays and neutrons. Optical microscopy. Polarized microscope. Electron microscope. Atomic force microscopy and scanning tunnelling microscope
- Kinetic properties of colloids. Diffusion. Viscosity. Rheology. Electrophoresis
- Thermodynamics of interfacial systems. Surface tension Contact angle. Elementary theory of nucleation, crystal-growth and aggregation
- Interparticle forces in colloidal systems. Van der Waals forces, modern theory of Lifshitz. Modern electric double layer theory. Colloid stability, DLVO theory
- Association colloids. Micelles, liquid-crystalline phases of surfactants. Lamellar phases and vesicles, macro- and microemulsions. Colloidal properties of polymers and biological macromolecules

### **CHE 650 Computational Chemistry**

The course provides an overview of computational methods and their applications in the prediction of physicochemical properties of molecules. Force fields, semi-empirical, DFT and ab initio methods, the most common basis sets and qualitative molecular orbital theory are discussed.

### **CHE 651 Raman Spectroscopy**

- Raman Spectroscopy: Resonance Raman Spectroscopy, Fluorescence Complications, Depolarization Ratios, Absolute Resonance Raman Cross-Sections, Theoretical Calculations, Time-dependent Perturbation Theory, Homogeneous/Inhomogeneous Broadening, Pure dephasing
- Time-Resolved methods: Pump-Probe, Stokes and Anti-Stokes Resonance Raman
- Applications: environmental, biological, charge-transfer, reaction dynamics

### **CHE 654 The Theory of the Chemical Bond**

Schrödinger's equation. Orbitals of one-electron atoms. Approximate methods for many-electron systems. Theory of molecular orbitals. Approximate treatment of molecular orbitals in standard molecular systems. Hückel theory and its applications in conjugated organic molecules. Aromaticity and antiaromaticity. Quantum chemical calculations on molecules with many electrons. Ab initio computational methods.

### **CHE 670 Heterogeneous Catalysis**

- Influence of external mass and heat transport processes on the rate and selectivity of a heterogeneous catalytic reaction.
- Influence of internal mass (diffusion) and heat transport processes within porous catalysts on the rate and selectivity of a catalytic reaction.
- Analysis of experimental rate data of a catalytic reaction.
- Environmental Catalysis: The selective catalytic reduction of NO. From the fundamental research to its applied technology.
- Techniques for studying catalytic reaction mechanisms.

### **CHE 681 Biochemical Engineering**

Introduction: Biochemical Engineering, biotechnology and industry. The chemicals of life: Proteins, nucleic acids, saccharides and lipids. Enzymes and enzyme kinetics. Enzyme applications. Stoichiometry of microbial reactions. Kinetics of substrate consumption, product formation and biomass production in cell cultures. Ideal bioreactors and their modelling.

### **CHE 690 Synthesis, Characterization and Technology of Polymers**

Introduction. Step-growth polymerization – Polycondensation. Free radical chain polymerizations. Free radical chain copolymerizations. Anionic polymerizations. Cationic polymerizations. Propagation-depropagation equilibria in polymerization processes. Stereospecific polymerizations. Chemical reactions on polymers. Functional polymers, block and graft copolymers, model networks. Reactors and processes for homogeneous (single-phase) reactions. Heterogeneous free radical polymerizations. Reactors and processes for heterogeneous ionic polymerizations and reaction injection molding. Reactors and processes for heterogeneous catalytic polymerization.

### **CHE 695 Aquatic Chemistry of Heavy Metals**

This course provides chemical principles that are important to the chemistry of heavy metal ions in natural environments and in particular in natural aquifer systems. The chemical principles

that can be applied in order to understand the chemical behavior and the use of chemical thermodynamics for describing reactions of metal ions under natural conditions and in the presence of naturally occurring ligands are reviewed extensively. The course includes introductory chapters on nucleogenesis, metal distribution on the geosphere and characterization of aquatic systems, and a main chapter on the chemistry of metal ions in aquatic solutions. Specific topics such as solid phase solubility, hydrolysis, chloride, carbonate and humate complexation, redox reaction, colloid formation and geochemical reactions are discussed in detail and numerous examples of analytical methods/techniques used in the determination and characterization (speciation) of metal species under environmental conditions are discussed.

#### **CHE 720 Methods of Synthesis and Characterization of Inorganic Compounds**

- Synthesis of Inorganic Molecules: Synthetic techniques for the synthesis of inorganic compounds in aqueous solution and organic solvents.
- Synthetic techniques for the synthesis of inorganic compounds in inert atmosphere.
- Characterization of Inorganic Compounds: Characterization in the solid state with infrared, UV-Vis, X-Ray, magnetism.
- Characterization in solution with Electrochemistry, UV-Vis, multinuclear NMR, EPR, magnetism, electrochemical methods.

### **New Graduate Programmes (M.Sc. level)**

The Department of Chemistry, acknowledging the increasing need in Cypriot society for specialized scientific personnel, has launched three new graduate programmes in the following areas:

- Master in Food Chemistry
- Master in Environmental Chemistry
- Master in Medicinal Chemistry

In the development of these new Master's programmes the Department of Chemistry has taken into account that most of its graduates are currently employed in the fields of medicinal, environmental, and food chemistry in both the private and the public sector.

The new Master's programmes aim: a) to educate experienced scientists who are already actively employed but who would like to update their knowledge in new challenging scientific fields, and, b) to offer specializations that are in demand to new scientists who are at the beginning of their careers.

### **MASTER IN FOOD CHEMISTRY**

#### **Table of Courses**

CHE 710 Quality Assurance Methods  
 CHE 711 Spectroscopic and Magnetic Analytical Techniques  
 CHE 712 Chromatographic Methods of Analysis  
 CHE 713 Food Biochemistry  
 CHE 714 Legislation - Admissible Limits - Toxicology  
 CHE 715 Mass Spectrometry  
 CHE 716 Food Biotechnology

CHE 717 Food Microbiology  
 CHE 740 Literature Study  
 CHE 750 General Laboratory Course

### **Course Descriptions**

#### **CHE 710 Quality Assurance Methods**

The course focuses on different statistical methods and their use in lab management, errors, and their use in examining analysis results and chemometrics – statistical quality control, detection of adulteration and pollutants.

#### **CHE 711 Spectroscopic and Magnetic Analytical Techniques**

UV-Vis, infrared, Raman, and Nuclear Magnetic Resonance spectroscopies. Theory, instrumentation, and applications in food analysis and in studying reactions and processes in food.

#### **CHE 712 Chromatographic Methods of Analysis**

The main purpose of this graduate course is to familiarize students with the basic concepts of separation science. In the course, we will examine a number of chromatographic separation methods and their applications in different areas of industry, food science, etc. We will also examine the different sample pre-treatment methods.

#### **CHE 713 Food Biochemistry**

Application of biotechnological techniques in food production and processing. Study of nutritional (lipids, proteins, hydrocarbons, vitamins) and aromatic compounds, their interactions and metabolism.

#### **CHE 714 Legislation- Admissible Limits -Toxicology**

The course covers environmental legislation, pollution control, hazardous chemicals, food legislation, toxicology, environmental and food toxicology, food treatment and conservation.

#### **CHE 715 Mass Spectrometry**

This course covers the micro-analytical method of mass spectrometry for the detection of traces of chemicals, with applications in organic pollutants, food contamination, and forensics.

#### **CHE 716 Food Biotechnology**

This course covers concepts of 'Food Biotechnology' and explores alternative methods for improved quality products and increased production. Lectures include: Fermentations in food production (winemaking, brewing, baking, fermented meat products, dairy products, bioethanol), use of batch and continuous bioreactors, cell immobilization, probiotics and prebiotics, genetically modified food, waste treatment in the food industry, the impact of biotechnology in the food industry and in the nutritional value of food.

#### **CHE 717 Food Microbiology**

The course studies different microorganisms, their detection and analysis, their effect on processed and unprocessed food quality and safety, food infections.

#### **CHE 740 Literature Study**

See course description on previous pages.

**CHE 750 General Laboratory Course**

In this laboratory course advanced instrumental analysis experiments are performed, including chromatography (HPLC, GC), spectroscopy (IR, UV-vis, fluorescence, NMR, Raman), crystallography, and hyphenated techniques GC-MS, LC-MS.

**MASTER IN ENVIRONMENTAL CHEMISTRY****Table of Courses**

CHE 714 Legislation - Admissible Limits - Toxicology  
 CHE 715 Mass Spectrometry  
 CHE 740 Literature Study  
 CHE 741 Literature Study or Laboratory Exercise or Industrial Exercise  
 CHE 750 General Laboratory Course  
 CHE 779 Heavy Metal Chemistry & Radiochemistry  
 CHE 780 Atmospheric Pollutants  
 CHE 781 Environmental Physical Chemistry  
 CHE 782 Environmental Catalysis and Technology  
 CHE 783 Hydrosphere  
 CEE 582 Hazardous Waste Management

**Course Descriptions****CHE 582 Hazardous Waste Management**

Definition and characterization of solid and hazardous waste (solid and liquid). Regulatory legislation Waste minimization and resource recovery. Chemical, physical, and biological treatment processes, thermal processes. Disposal practices. Analysis and design of systems for treatment and disposal. Landfill design and site remediation. Transportation of hazardous wastes. Life cycle analysis.

**CHE 714 Legislation- Admissible Limits -Toxicology**

See course description on previous pages.

**CHE 715 Mass Spectrometry**

See course description on previous pages.

**CHE 740 Literature Study**

See course description on previous pages.

**CHE 741 Literature Study or Laboratory Exercise or Industrial Exercise**

See course description on previous pages.

**CHE 750 General Laboratory Course**

See course description on previous pages. .

**CHE 779 Heavy Metal Chemistry & Radiochemistry**

Heavy metal chemistry (d- and f-elements) in aquatic systems. Interaction of metal ions with soil/mineral surfaces and naturally occurring colloids. Nucleogenesis, radionuclide chemistry and heavy metal distribution in the geosphere. Environmental radioactivity and radiometry. Radiation dosimetry and environmental impacts of ionizing radiation.

**CHE 780 Atmospheric Pollutants**

The course covers atmospheric pollutants (gases and aerosols), their sources and environmental impacts. Analysis of

atmospheric pollutants and air pollution control technologies are also presented and discussed.

**CHE 781 Environmental Physical Chemistry**

The course covers fundamental physicochemical parameters, which determine the environmental behavior of inorganic and organic pollutants such as vapour pressure, activity coefficients, hydrophobicity, distribution coefficients, etc. Also examined are: mass transport between different phases (gas-liquid, liquid-solid and gas-solid), and sorption isotherms, nucleation and crystal growth and fundamentals of colloid chemistry, and methods of colloid characterisation.

**CHE 782 Environmental Catalysis and Technology**

Internal and external mass and heat transport phenomena in heterogeneous catalysis. Analysis of kinetic data of catalyzed reactions and heterogeneous catalysis techniques. Selective catalyzed reduction of NO<sub>x</sub> and catalytical techniques for air pollution control. Application of heterogeneous catalysis in energy production from biofuels.

**CHE 783 Hydrosphere**

Hydrological cycle. Natural water chemistry. Chemical processes in natural water systems. Seawater chemistry. Potable water. Water management and water treatment technologies. Water quality management.

**MASTER IN MEDICINAL CHEMISTRY****Table of Courses**

CHE 710 Laboratory Quality Assurance  
 CHE 740 Literature Study  
 CHE 741 Literature Study or Laboratory Exercise or Industrial Exercise  
 CHE 750 General Laboratory Course  
 CHE 784 Advanced Bioorganic Chemistry  
 CHE 785 Advanced Bioinorganic Chemistry  
 CHE 786 Computational Chemistry Methods in Pharmaceutical Sciences  
 CHE 787 Pharmaceutical Technology  
 CHE 788 Medicinal Biochemistry  
 CHE 789 Synthetic Organic Chemistry  
 CHE 792 Pharmaceutical Analysis and Bioanalytical Chemistry

**Course Descriptions****CHE 710 Quality Assurance Methods**

The course covers the theory of various statistical methods and their application in laboratory quality assurance, in error analysis for data reporting and chemometrics – quality control, food adulteration and contamination detection.

**CHE 740 Literature Study**

See course description on previous pages.

**CHE 741 Literature Study or Laboratory Exercise or Industrial Exercise**

See course description on previous pages.

#### **CHE 750 General Laboratory Course**

See course description on previous pages.

#### **CHE 784 Advanced Bioorganic Chemistry**

The course covers the structure and synthesis of several important biomolecules, drugs, hormones and toxins. We will also examine the stability and biological function of biomolecules and the mechanisms of their reactions.

#### **CHE 785 Advanced Bioinorganic Chemistry**

The course focuses on the various metals that affect organisms when they are present in excess or in shortage, on metalloproteins, their structures and their functions in biological systems.

#### **CHE 786 Computational Chemistry Methods in Pharmaceutical Sciences**

Overview of computational methods and their application in chemical problems. Molecular orbital theory, force-fields, semi-empirical methods and ab-initio quantum mechanical methods. QM/MM methods for studies in the condensed phase. Applications in the study of small organic molecules with biochemical reactivity, proteins, membranes and interactions between drugs and proteins. Molecular design with desired chemical / biochemical reactivity.

#### **CHE 787 Pharmaceutical Technology**

The course covers drug discovery. Stages of drug development. Mechanisms of drug stabilization and alteration. Drug delivery techniques. Drug preparation, drug additives, the industrial production of drugs and their quality control.

#### **CHE 788 Medicinal Biochemistry**

The course covers the biochemical approach to disease and its pharmaceutical treatment. Theory of receptors and mechanisms of enzyme reactions and drug metabolism.

#### **CHE 789 Synthetic Organic Chemistry**

Detailed design, synthesis and evaluation of drugs. Target-oriented organic synthesis. Retrosynthetic analysis. Solid-state polypeptide synthesis. Diversity-oriented synthesis.

#### **CHE 792 Pharmaceutical Analysis and Bioanalytical Chemistry**

The course covers analysis of proteins DNA and drugs with electrophoresis and mass spectrometry techniques. We also study the structure of function of proteins and bio-sensors.

### **Areas of Research**

Research in the Department of Chemistry focuses on the following areas:

- Chemistry of Porous Solids
- Physical Chemistry of Colloids and Interfacial Systems
- Computational Chemistry/Molecular Simulation
- Heterogeneous Catalysis/Environmental Catalysis and Technology
- Polymer Synthesis and Characterization
- Synthetic Organic Chemistry
- Synthetic Inorganic Chemistry
- Materials Chemistry

- Analytical and Environmental Chemistry and Radiochemistry
- Instrumental Analysis
- Molecular Spectroscopy
- Fullerene and Supramolecular Chemistry

Chemistry faculty members participate in international research projects and collaborate with several foreign universities and research centers. Members of the Chemistry Department have participated in the past in European Research Programmes. Since 1998, with the participation of Cyprus in the 5th and 6th Framework Programmes of the European Union, the participation of the Chemistry Department in European projects has grown considerably, particularly in the area of Environmental Technology, while increased participation is anticipated in the future. The following list contains representative examples of international research Programmes in which researchers of the Department of Chemistry have collaborated in the past, or are currently participating:

1. Initiative Avicenne (EU)
2. Human Capital and Mobility (EU)
3. Training and Mobility of Researchers (EU)
4. Advanced Stimuli Responsive Materials Projects (JHPC/NEDO, Japan)
5. Research Training Networks (5th Framework Programme, EU)
6. Environment and Sustainable Development (5th Framework Programme, EU)
7. Quality of Life (5th Framework Programme, EU)
8. Growth (5th Framework Programme, EU)
9. Energy (6th Framework Programme, EU)
10. Interreg III (7th Framework Programme, EU)

A number of faculty members in the Department participate in the Greece-Cyprus and Romania-Cyprus Bilateral Research Programmes and in the Programmes of the Cyprus Research Promotion Foundation (including PENEK Programmes). As a result of the applied research carried out in the Department of Chemistry, three patents have already been issued (one European and two USA) and two others have been submitted (European Patent Office).

### **Research Laboratory Equipment**

The Chemistry postgraduate students conduct their research work in laboratories established by Chemistry faculty members covering the above-mentioned research topics. The equipment in these research laboratories, valued at millions of euros, has been purchased mainly through the University budget (internal funding). In recent years, several pieces of equipment have been purchased through European and

Cypriot Research Programmes awarded to the researchers of the Department.

The most important research equipment of the Department of Chemistry is summarized below:

- 300 and 500 MHz Bruker NMR Spectrometers
- Xcalibur III Oxford Single-crystal X-ray Diffractometer
- Shimadzu powder X-ray Diffractometer
- Q100 TA Differential Scanning Calorimeter (DSC)
- CHNS-O Eurovector Elemental Analyser
- Princeton Electrochemistry Equipment
- MALDI TOF-TOF MS
- Circular Dichroism
- Polarimeter
- MK I Sherwood Magnetic Balance
- KSV 3000 Langmuir-Blodgett apparatus
- Shimadzu Thermal Gravimetric Analyser (TGA)
- Waters HPLC system with dual pump and UV detector
- Shimadzu FTIR Model IR Prestige-21 with NIR kit and Pike Miracle ATR
- Nox, CO<sub>2</sub>, CO, H<sub>2</sub> and CH<sub>4</sub> Infrared Gas Analyzers
- BET Micromeritics Apparatus
- PicoPlus Molecular Imaging (Agilent) Atomic Force Microscope
- Nanosecond Resonance Raman/TRRR setup
- UV - Vis - NIR (Shimadzu UV-3600 UV-VIS-NIR)
- Computational Chemistry Cluster (PQS) QuantumCube CPU (64-bit Opteron Processors)
- Alpha/beta Radioactivity Proportional Counter

## Research Interests of the Academic Staff

### • Agapios Agapiou, Lecturer

His research is focused on the use and development of Analytical Chemistry methods, especially Instrumental Methods of Analysis, for the qualitative and quantitative determination of Volatile Organic Compounds (VOCs) and their exploitation in novel medical, biochemical, environmental, food, safety and security applications. Specifically, his research includes the following:

- Identification and mapping of the chemical signatures of human presence, emanating from expired air, urine, blood, sweat and other biological excretions.
- Assess and manage solid waste and municipal sewage treatment plants.
- Evaluate indoor air quality (workplaces, car cabins, transportation means, catering facilities, clean rooms, etc.) for exposure to toxic environmental contaminants.
- Monitor the quality of bottled and tap water based on the transfer of VOCs from the packaging to the water or the aging of the water distribution system.
- Early diagnosis and monitoring of various diseases and metabolic disorders such as cancer, diabetes, asthma, liver or kidney failure by correlating VOCs with human metabolic pathways.

- Detection of adulteration, spoilage and authenticity of food based on the spatial modification of the chemical signature.

### • Nikolaos E. Chronakis, Associate Professor

His research is focused on: The tether-directed remote functionalization of fullerene C<sub>60</sub>; The synthesis of enantiomerically pure bis- and trisadducts of C<sub>60</sub> with C<sub>2</sub>- and C<sub>3</sub>- symmetrical inherently chiral addition patterns; The study of enantiomerically pure bis- and trisadducts of C<sub>60</sub> with C<sub>2</sub>- and C<sub>3</sub>- symmetrical inherently chiral addition patterns in chiral recognition and in chiral photosensitization; The synthesis of organic materials with well-defined 3D-structures consisted of fullerene building units (Platonic solids, COFs); The synthesis of giant fullerene amphiphiles and study of their self-assembling behaviour in water.

### • Angelos M. Efstathiou, Professor

His research is focused on the field of Heterogeneous Catalysis as a means for solving critical environmental problems (e.g. air and water pollution), problems related to the production of valuable chemical products, and the effective utilization of significant energy-related sources (e.g., natural gas, biomass) towards H<sub>2</sub> production. To achieve these goals, new materials-catalysts must be developed and tested or existing ones improved. The design of new catalytic materials requires fundamental knowledge of the relationships between physicochemical and catalytic (activity/selectivity) surface properties, knowledge of the reaction mechanism and the mechanism of catalyst deactivation.

The main instrumentation that is used in the Heterogeneous Catalysis laboratory at the University of Cyprus for the above described research consists of specially designed gas flow-systems that allow steady-state and transient catalytic experiments to be conducted, quadrupole mass spectrometers, a gas chromatograph, CO, CO<sub>2</sub>, NO<sub>x</sub>, N<sub>2</sub>O and H<sub>2</sub> gas analyzers, in-situ DRIFTS, UV-vis / DRS and Raman flow-cells. Several other catalyst characterization techniques are used in collaboration with other laboratories abroad (e.g., XPS, SEM, HRTEM, Mössbauer, Raman, Photoluminescence). Pioneering research has also been undertaken regarding industrial NO<sub>x</sub> control by the use of H<sub>2</sub> in the low-temperature range of 120-200°C; this has resulted in one USA and three European patents as well as a License Agreement with LINDE ENGINEERING AG for exploitation of these patents.

### • Savvas N. Georgiades, Lecturer

His research interests encompass the areas of Synthetic, Bioorganic and Medicinal Chemistry. In particular, he is looking into new and efficient ways for synthetically accessing small molecules that are biologically active (including natural products) and which can be elaborated into therapeutics or chemical probes for the study of biological systems.

One area of focus for the laboratory is the development of new chemical agents that selectively recognize G-quadruplex structures in human guanine-rich nucleic acid sequences, such as the ones from the telomeres or known oncogene-promoter regions. In either case, G-quadruplex formation within the sequence has shown potential for inhibition of enzymes involved in oncogenesis.

Another area of focus is the synthesis and investigation of compounds with the potential to act as spatial and temporal modulators of critical cellular signal transduction pathways for example, the PI3K/PTEN/Akt/FOXO pathway and EGFR-mediated pathways. Such compounds are promising for the

development of anti-cancer, anti-diabetic or neuroprotective therapies.

Laboratory members use various synthetic approaches, including conventional solution and solid-phase synthesis, as well as dynamic and combinatorial methods. We also routinely employ C-H bond activation reactions for the construction of strategic C-C or C-X bonds and for late-stage functionalization of bioactive compounds. The Georgiades Laboratory is a partner in COST Action CA15106 (CH Activation in Organic Synthesis).

• **Sophia C. Hayes, Associate Professor**

Her research interests focus on the fundamental understanding of the photochemical and photophysical behavior of a variety of chemical systems in the interactions between molecules and molecules and their environment with the use of molecular spectroscopy. The methods employed include Resonance Raman and time-resolved Resonance Raman spectroscopy, Fluorescence and time-resolved fluorescence spectroscopy. Current research focuses on:

- Characterization of structure and photophysics of conjugated polymers for use in optoelectronic devices.
- Biophysics of peptides as models for protein aggregation and inhibition via interaction with small molecules, relevant to the pathology of neurodegenerative diseases.

• **Constantina P. Kapnissi-Christodoulou, Assistant Professor**

Her research interests include the following:

- Development of electrophoretic, chromatographic and electrochromatographic methods for improved achiral and chiral separations of various classes of analytes.
- Use of the hyphenated techniques capillary electrophoresis-mass spectrometry (CE-MS) and ultra performance liquid chromatography-MS-MS (UPLC-MS-MS) for the separation, detection and quantitation of various classes of analytes.
- Application of the optimum separation conditions in biological, natural and food samples.
- Use of enantiomers as diagnostic biomarkers for diseases.
- Determination of the most effective sample pre-treatment methods.
- Synthesis, characterization and use of chiral ionic liquids in capillary electrophoresis for improved separations and greater efficiency.
- Modification of the capillary columns for improved separations.
- Evaluation of synergistic enantioseparation systems.
- Use of cyclofructans as chiral selectors in electrokinetic chromatography (EKC).

• **Anastasios D. Keramidis, Professor**

Basic research of transition metal complexes. Bioinorganic chemistry of vanadium, chromium, manganese, iron, molybdenum and selenium, including: synthesis and characterization of model transition metal compounds for the active centre of biomolecules, synthesis and characterization of metal compounds with pharmaceutical properties such as antidiabetic vanadium molecules, and organic selenium compounds with anticancer and antioxidant properties.

Supramolecular chemistry of metal-organic compounds, including: synthesis and characterization of multinuclear metal complexes with defined shape, with Host-Guest properties and novel magnetic and optical properties, synthesis and characterization of supramolecular compounds formed from lipids of transition metal complexes.

• **Panayiotis A. Koutentis, Professor**

Discovery and development of novel heterocyclic chemistry. Sulfur-nitrogen rich heterocycles 1,2,3-dithiazoles and 1,2,6-thiadiazines are under investigation.

Novel conjugated organic polymers based on 1,2,6-thiadiazines; analogues of poly(pyrroles) and poly(thiophenes).

Design, synthesis and characterization of electronically unusual compounds; organic neutral radicals, diradicals, and zwitterion radicals.

• **Epameinondas Leontidis, Professor**

His main research interest is in the area of Physical Chemistry of Colloids and Interfaces. Emphasis is on the study of lipid monolayers on liquid and solid substrates and their interactions with ions and small molecules. The goal is to understand specific ion effects in biophysical and physicochemical systems and in various technological applications, and the use of lipid mono- and multilayers as sensors. The Langmuir-Blodgett and Layer-by-Layer methods are the main tools for these investigations. In other application, the sol-gel method is used to produce novel mesoporous silicate powders for the removal of boron from aqueous solutions. Mesoporous inorganic oxide films for photocatalytic applications are also produced using sol-gel techniques.

There is also activity in the area of computational and theoretical chemistry with the goals of modeling the structure of electrolyte solutions close to surfaces and of understanding salt effects on peptide conformations in solution.

Currently, there is collaboration with the French Center for Separation Chemistry (CEA-Marcoule, France), with the Max Planck Institute for Colloids and Interfaces (Golm, Germany), the University of Graz (Austria), with the University of Patras, the Demokritos Research Institute and the National Research Institute (Greece), with the Department of Microscopy of the Cyprus Institute of Neurology and Genetics, and with many research groups in the University of Cyprus.

• **Athanassios Nicolaidis, Associate Professor**

His research interests lie: (a) in the area of organic reactive intermediates with an emphasis on pyramidalized alkenes, carbenes and nitrenes and; (b) in the application of quantum chemical computations to various organic and environmental chemistry problems. He is working in collaboration with researchers in Italy (ISOF-Biofreeradicals) within the COST framework (Action CM0603) to examine the mechanism of oxidation of methionine and other organic substrates. In the area of pyramidalized alkenes his research efforts are directed towards the synthesis of new pyramidalized alkenes and organometallic derivatives of such species with the aim of synthesizing complex polycyclic organic compounds with well-defined rigid geometries.

• **Ioannis Pashalidis, Professor**

Study of the chemical behavior of f element ions in natural aquifer systems and the application of experimental methods for the analysis of adsorbed species on surfaces and colloids.

Aqueous nuclear chemistry of actinide ions and environmental alpha radiometry. Study of the interaction of f element ions with chelating agents of clinical use in order to determine and characterize the formed species, assess their behavior under physiological conditions and evaluate their possible use in the decorporation of radionuclides from contaminated persons.

• **Costas S. Patrickios, Professor**

Synthesis, characterization, modelling and applications of functional polymers.

Research is focused on the design and preparation of polymers with improved properties and applications in biotechnology, medicine, optoelectronics, colloidal and environmental chemistry. These polymers are obtained with the polymerization of the appropriate monomer or monomers bearing functional groups with the desired properties. Such properties are the ionic charge (the resulting polymers can be used in protein separation), the nucleophilic character (synthetic polymers mimicking enzymes), the high refractive index (optoelectronic applications), the amphiphilic character (detergency), the very low surface tension (compatibility with the environmentally friendly supercritical carbon dioxide). Other central characteristics of the present polymers are the precise molecular weight (narrow size distribution), the well-defined composition (in case of copolymers) and the controlled architecture (e.g., linear polymers, star polymers or polymer networks; block or random copolymers). These characteristics, which allow the derivation of accurate structure-property relationships, are afforded with the use of "living" synthetic techniques, such as anionic polymerization and group transfer polymerization (GTP), where all polymers grow uniformly during their preparation. The molecular weight and composition of the polymers are characterized using gel permeation chromatography (GPC) and nuclear magnetic resonance (NMR) spectroscopy, respectively. Finally, thermodynamic theories are applied for the prediction of polymer behavior upon aggregation in selective solvents and upon adsorption onto surfaces.

• **Eftychia Pinakoulaki, Assistant Professor**

Her research programme addresses a wide range of fundamental problems in Biophysical/Bioanalytical Chemistry. Fourier transform infrared (FTIR), Attenuated Total Reflection FTIR, time-resolved step-scan FTIR, and resonance Raman spectroscopies are the tools for the investigation of basic mechanisms in Chemistry and Biochemistry.

Current projects include:

- Oxygen sensor proteins EcDOS and BsHemAT: Dynamics and ligand discrimination mechanisms
- Dynamics and catalytic mechanism of Aldoxime dehydratase
- Ligand binding properties and dynamics of thermophilic enzymes
- Nitric oxide activation by NOR and heme-copper cbb3
- Applications of FTIR and Raman spectroscopy in Food Chemistry and Biochemistry

• **Anastasios J. Tasiopoulos, Associate Professor**

Synthesis and Physicochemical characterization of polynuclear metal complexes with potential applications in both Bioinorganic Chemistry, as models for the study of related biomolecules and Materials Science, since below a critical temperature they can function as magnets and are referred to as Single Molecule Magnets (SMMs).

• **Charis R. Theocharis, Professor**

The research interests of his group are: the study of adsorption on porous solids, the surface properties of zeolites, ALPOs, and the reactivity of their surfaces with gases and vapours. Surface properties of the oxides and hydroxides of calcium and magnesium. Chemistry of organic solids.

## Contact Details

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# Department of Computer Science

*The Department of Computer Science attaches major importance to research, since it is through research that it accomplishes one of its foremost missions, while, on the other hand, research enables computer science to contribute to local industry and, more generally, to Cypriot society at large. Beyond the foundational topics that concern it, computer science also aims at developing methods that will form the basis for the effective solution of “real” problems from every other discipline, with the ultimate goal of improving the quality of life. Moreover, our Department also attaches great significance to applied research and, more specifically, to research which, as far as possible, will be directly useful to local industry.*

*The Department of Computer Science offers the following four master’s programmes:*

- *Master in Computer Science (MCS)*
- *Master in Internet Computing (MIC)*
- *Master in Intelligent Systems (MIIntS)*
- *Professional Master in Advanced Information Technologies (PM)*
- *Master in Design and Development of Computer Games and Interactive Technologies (jointly with CUT)*

*The Department offers postgraduate programmes at the Ph.D. level in different specialisations of Computer Science.*

## Research

The general research areas of the Department include: Parallel and Distributed Systems and Computation, Fixed and Wireless High-Speed Networks, Internet Technologies, Concurrent Systems, Mobile Computing, Parallel Processing, Intelligent Systems, Computer Architecture, Open and Distance Learning, Medical Informatics and Telemedicine, and Multimedia Systems. Part of this work is financed through European research projects, the Cyprus Foundation for the Promotion of Research and local industry.

Over the last years, our Department has developed intensive activities around the general theme of the Information Society. On this theme, four research programmes related to Telemedicine, Telenursing, and Intermediary Infrastructures for Web Services have already started with local and European funding. In parallel, the Department has helped to shape national strategy and policy on issues related to the Information Society, and has also alerted local industry and organizations to the development perspectives of Cyprus in relation to the same themes.

In the last eight years the Department has secured its participation in more than 170 research programmes that are funded by the European Union, most of them within the Sixth Framework Programme “Information Society Technologies.” This budget exceeds ten million Euros and has assisted in the employment of new researchers and postgraduate students.

In recent years, the Department of Computer Science has co-organised a number of international conferences, including the following:

- 17th International Conference on Business Information Systems, 21-23 May 2014, Larnaca
- 7th International Conference for Entrepreneurship, Innovation and Regional Development, 5-6 June 2014, Nicosia
- 5th International Conference on Software Business, 15-18 June 2014, Paphos
- 7th International Conference on Developments in eSystems Engineering, 25-27 August 2014, Paphos

- 4th International Conference on Model & Data Engineering, 24-26 September 2014, Larnaca
- Online Social Networks: Emerging Trends in Research and Innovation, 7-8 October 2014, Nicosia
- 10th IEEE International Conference on Wireless and Mobile Computing, Networking and Communications, 8-10 October 2014, Larnaca
- 9th International Conference on Knowledge, Information and Creativity Support Systems, 6-8 November 2014, Limassol
- IEEE International Conference on Tools with Artificial Intelligence, 10-12 November 2014, Limassol
- 24th IEEE WETICE Conference, 15-17 June, 2015, Larnaca
- 14th International Symposium on Parallel and Distributed Computing, 29 June – 1 July, 2015, Limassol
- 8th Cyprus Workshop on Signal Processing and Informatics, 3 July, 2015, Nicosia
- 20th IEEE Symposium on Computers and Communications, 6-9 July, 2015, Larnaca
- 9th International and Interdisciplinary Conference on Modelling and Using Context, 2-6 November, 2015, Larnaca
- 8th IEEE/ACM International Conference on Utility and Cloud Computing, 7-10 December, 2015, Limassol
- 14th Mediterranean Conference on Medical and Biological Engineering and Computing, 31 March – 2 April, 2016, Paphos
- 15th International Conference on Software Reuse, 5-7 June, 2016, Limassol
- 9th Cyprus Workshop on Signal Processing and Informatics, 29 June, 2016, Nicosia
- Euromicro DSD / SEAA 2016, 31 August – 2 September, 2016, Limassol
- 15th International Conference on Intelligent Software Methodologies, Tools and Techniques, 12-14 September, 2016, Larnaca

## Computer Laboratories and Research Facilities

In early 2003 the Department moved to buildings located at the newly constructed University campus, which offer ample space for offices as well as for research and teaching laboratories.

In total, the Department houses six teaching laboratories, including a digital lab and a walk-in lab, with more than 200 work stations. Ten research laboratories accommodate approximately 40 postgraduate students and research

associates who participate in the various research projects of the Department. The number of research labs is expected to grow to 20 in the next few years.

The computer equipment of the Department includes modern multiprocessor servers that run under Windows and Linux, connected through high-speed Gbit network. A state-of-the-art wireless local area network allows access to the computer systems of the Department from anywhere on campus.

## M.Sc. Programmes

To be admitted to a master's programme, a candidate must possess a first degree in Computer Science or a related subject from an accredited university with an overall grade of "Very Good". Any relevant industrial experience may be considered as an additional advantage.

### MASTER IN COMPUTER SCIENCE

The Master Programme in Computer Science is designed primarily for Computer Science and other science-related graduates who seek to develop research skills and enhance their knowledge in advanced areas of Computer Science. Students who attend this programme may pursue a Ph.D. degree after their graduation.

The completion of the programme requires 90 ECTS, and the duration of studies should be at least three semesters. These 90 ECTS correspond to eight courses and a Master's thesis. More specifically:

- Seven postgraduate courses (8 ECTS each) (any seven from the postgraduate course list)
- One postgraduate course (4 ECTS) (CS 671 Research Methodologies in Computer Science)
- Master's thesis (30 ECTS)

### MASTER IN INTERNET COMPUTING

The Master Programme in Intelligent Systems is designed primarily for Computer Science and other science-related graduates who seek to deepen their knowledge on subjects like Computer Networks, Distributed Systems and the Internet to develop research skills in these subjects and, potentially, pursue a doctoral degree after their graduation.

The completion of the programme requires 90 ECTS and study duration of at least three semesters. These 90 ECTS correspond to eight courses and a Master's thesis. More specifically:

- Seven postgraduate courses of 8 ECTS, out of which 4 should be related to the area of Internet Computing

(identified as such in the Table of Specialization Courses and in the course descriptions)

- One postgraduate course of 4 ECTS (CS 671 Research Methodologies in Computer Science)
- Master thesis worth of 30 ECTS (the topic of the thesis must be related to the scope of the programme: Internet, Computer Networks, Distributed Computing, etc.)

### MASTER IN INTELLIGENT SYSTEMS

The Master in Intelligent Systems is designed for Computer Science and other science-related graduates who seek to deepen their knowledge in areas like Artificial Intelligence and Computational and Data Mining Systems, to develop research skills in these subjects and, potentially, follow doctoral studies after their graduation.

The completion of the program requires 90 ECTS and the duration of studies should be at least three semesters. These 90 ECTS correspond to eight courses and a thesis. More specifically:

- Seven postgraduate courses (8 ECTS), out of which 4 must be relevant to the area of Intelligent Systems (identified as such in the Table of Specialization Courses and in the course descriptions)
- One postgraduate course (4 ECTS) (EPL 671 Research Methodologies in Computer Science)
- Master's thesis (30 ECTS) (the topic of the thesis must be related to the scope of the programme: Artificial Intelligence, Computational Knowledge Mining Systems, etc.)

### MASTER IN ADVANCED INFORMATION TECHNOLOGIES (Professional)

The aim of the Professional Master in Advanced Information Technologies is to help Information Technology professionals to extend and update their knowledge in Advanced Computer Technologies and to acquire up-to-date know-how in subjects related to the national Information Technology industry like Software Engineering, the Internet, and Intelligent Systems.

The completion of the course requires 75 ECTS and the duration of studies must be at least four semesters. In particular:

- Seven postgraduate courses of 8 ECTS, out of which 4 should be related to the programme's scope (identified as such in the Table of Specialization Courses and in the course descriptions)
- One postgraduate course of 4 ECTS (EPL 672 Seminar on Professional Computer Science Practices)

- Master's thesis worth of 15 ECTS, which can be replaced with two extra postgraduate courses

The needs of employees and professionals in the Information Technology industry will be considered during the scheduling of courses (afternoon and evening courses and three-hour meetings).

### MASTER IN DESIGN AND DEVELOPMENT OF COMPUTER GAMES AND INTERACTIVE TECHNOLOGIES

The Master in Design and Development of Computer Games and Interactive Technologies aims to provide the necessary background (technical and creative) to students who wish to engage in the development and implementation of interactive technologies and computer games. The Master is the first inter-university programme of study offered jointly by the two state universities in Cyprus (Department of Computer Science, University of Cyprus and Department of Multimedia and Graphic Arts, Cyprus University of Technology).

The programme requires completion of 90 ECTS in at least three semesters, with approximately half of the courses offered by the Cyprus University of Technology and the other half by the University of Cyprus. Specifically:

- Seven postgraduate courses of 7.5-8 ECTS, of which four are compulsory and the other three should be related to the area of Computer Games and Interactive Technologies (as presented in the Specialization tables and in the course descriptions)
- A postgraduate course PGT 541 Research Methods (7.5 ECTS) or EPL671 Research Methods in Computer Science + Internship (8 ECTS)
- Master's thesis worth 30 ECTS, on a topic related to the scope of the programme.

### Course Descriptions

Unless otherwise stated, all courses are credited with 8 ECTS.

#### CS 601 Distributed Systems

*Specialization Course for MIC  
Restricted Choice for MCS, MIntS, PM*

Basic concepts and principles of distributed systems. Communication, processes and synchronization. Faults. Naming. Distributed file systems and distributed operating systems. Security and cryptography in distributed systems. Distributed shared memory and its consistency. Distributed algorithms and distributed programming. Design and development of applications in distributed environments. Case-studies of specific distributed systems. Practical exposition with programming project or programming exercises.

### **CS 602 Foundations of Internet Technologies**

*Specialization Course for MIC, PM  
Restricted Choice for MCS, MIntS*

Web Architecture. Web Protocols. Markup Languages. Web Characterization. Search Engines. Service-provision Infrastructures.

### **CS 603 Advanced Software Engineering**

*Specialization Course for PM  
Restricted Choice for MCS, MIC, MIntS*

Topics in Component-Based Software: Principles of development of component-based systems based on component-based software. Modelling techniques. Software architectures. Coordination programming. Middleware platforms for the development of systems. Software composition. Elements of distributed programming. Configuration management. Advanced topics in Software Engineering: Requirements in Engineering Processes. Real-time Software Design. Design with Reuse. User Interface Design. Software Change.

### **CS 604 Artificial Intelligence**

*Specialization Course for MIntS  
Restricted Choice for MCS, MIC, PM*

Introduction to Artificial Intelligence. Intelligent Agents. Searching. Constraint Satisfaction. Knowledge Representation and Extraction. Temporal Representation. Introduction to Machine Learning. Introduction to Artificial Neural Networks. Single layer and Multi-layer Perceptrons. Radial-basis Function Networks. Self-organizing Maps. Reinforcement Learning. Genetic Algorithms. Fuzzy Logic.

### **CS 605 Advanced Computer Architecture I**

*Specialization Course for PM  
Restricted Choice for MCS, MIC, MIntS*

Performance evaluation and comparison, as well as benchmarking programmes; Basic microarchitecture concepts of modern processors; Pipelining, instruction-level parallelism, prediction, speculation, memory hierarchy, and static/dynamic instruction scheduling; Examples of modern processors; Current research projects in the area of computer architecture.

### **CS 606 Computer Networks and the Internet**

*Specialization Course for MIC, PM  
Restricted Choice for MCS, MIntS*

Introduction to Internet and Networking Technologies. TCP/IP suite of protocols, Quality of Service (QoS), New Networking Architectures. Protocols and Standards (e.g., DiffServ, IPv6, MPLS). Network Performance Evaluation (e.g., queuing theory, and simulation tools). Traffic Modelling and Traffic Engineering. Congestion Control and Resource Allocation. Network Design and Optimization.

### **CS 607 Visual Computing**

*Specialization Course for PM  
Restricted Choice for MCS, MIC, MIntS*

Binary image processing, intensity transformations, the discrete Fourier transform, linear and nonlinear filtering, image compression, image analysis, basic principles of video processing. Basic principles of 3D graphics: polygonal representations, transformations, local and world coordinate system, scene graph, camera and field of view specification, orthographic and perspective projection, clipping in 2D & 3D, polygon rasterization, back face elimination, visible surface determination with the Z-buffer method and Binary Space Partitioning Trees, local illumination - flat, Phong & Gouraud shading, real-time graphics, applications.

### **CS 608 Programming for Games and Interactive Technologies**

Teaching material includes: (a) introduction to the use of computers and programming languages for creating games and interactive applications; (b) analysis, specification and problem solving of applications in Computer Graphics; (c) program and data abstraction; (d) construction, articulation, documentation and implementation techniques for good programming practices, debugging and source code reuse; (e) hands-on use of visual programming and scripting programming languages.

### **CS 646 Advanced Topics in Databases**

*Specialization Course for MCS  
Restricted Choice for MIC, MIntS, PM*

Fundamentals of Modern Database Systems including topics in Indexing, Query Optimization and Transaction Processing. Fundamentals of Distributed Database Management Systems, including algorithms for query optimization and transaction processing. Semi-structured data management (XML, XPATH and XQUERY) and introductory concepts in unstructured data management. Spatial data management and specialized index structures (e.g., R-Trees, Grid Files), temporal data management and specialized index structures (e.g., MVB-Trees), other advanced topics including: Data Warehouses and OLAP, Object-Oriented Databases and Languages (ODMG, ODL and OQL), Object-Relational Databases (ORDBMS), Data Stream Management Systems (DSMS) and topics in Database Security.

### **CS 651 Data Management for Mobile Computing**

*Specialization Course for MIC, PM  
Restricted Choice for MCS, MIntS*

Introduction (wireless technologies, architectures, applications, limitations). Software architectures for mobile computing. Theoretical models for mobile computing. Support for information recovery. Information Management. Dynamic redirection of computations. Indicative applications and open problems.

### **CS 653 Computer Games Software Technology**

*Specialization Course for MIntS, PM  
Restricted Choice for MIC, MCS*

Game structure and design, computer animation, movement and deformation, interactive cameras, visual simulation of physically-based models, special effects using particle systems, collision detection, articulated characters, navigation and other behavioural models for autonomous characters.

### **CS 655 Advanced Computer Architecture II**

*Specialization Course for PM  
Restricted Choice for MCS, MIC, MIntS*

Support for parallel programme execution, parallel architectures, different types of multiprocessor inter-connection networks, compilation of parallel programmes, and performance analysis of various parallel applications.

### **CS 656 Computer Graphics: Modelling and Realism**

*Specialization Course for PM  
Restricted Choice for MCS, MIC, MIntS*

Modelling, parametric and implicit surfaces, camera specification, projections of primitives. Graphics Pipeline. Local and global illumination, shadows, ray tracing and radiosity. Real-time rendering of large environments. Acceleration techniques.

**CS 657 Wireless Computer Networks***Specialization Course for MIC**Restricted Choice for MCS, MIntS, PM*

Wireless environment, Interference and other problems in wireless communications, basic principles of cellular wireless networks and wireless local area networks. New architectures and technologies of wireless networks and wireless communication (e.g., ad-hoc and sensor networks). Resource management techniques, Next Generation wireless networks, design and planning of wireless networks, protocols for wireless and mobile networks.

**CS 658 Digital Video Processing***Specialization Course for MIntS**Restricted Choice for MCS, PM, MIC*

Basics of analog and digital video. Frequency domain analysis of video signals, spatial and temporal frequency response of the human visual system. Scene, camera, and motion modelling, 3D motion and projected 2D motion, models for typical camera/object motions. 2D motion estimation. Basic compression techniques. Waveform-based coding. Video compression standards (H.261 and H.263, MPEG-1, MPEG-2, MPEG-4, MPEG-7, MPEG-21).

**CS 659 Design on Embedded Systems***Specialization Course for PM**Restricted Choice for MCS, MIC, MIntS*

A review of embedded system processors. Organization of embedded systems: CPUs, RAM, ROM, buses, peripherals, sensors, actuators, interfacing. Examples of widely used processors buses and peripherals. Interfacing with peripherals: sampling, interrupts, advantages and disadvantages. Process distribution between hardware and software. Tools for the development of embedded systems and real-time operating systems. Hands-on experience with the development and implementation of embedded systems.

**CS 660 Information Retrieval and Search Engines***Specialization Course for MIC, MIntS**Restricted Choice for MCS, PM*

Introduction to Information Retrieval. Boolean Retrieval. Text encoding: tokenisation, stemming, lemmatisation, stop words, phrases. Dictionaries and Tolerant retrieval. Index Construction and Compression. Scoring and Term Weighting. Vector Space Retrieval. Evaluation in information retrieval. Relevance feedback/query expansion. Text classification and Naive Bayes. Vector Space Classification. Flat and Hierarchical Clustering. Web Search Basics. Web crawling and indexes. Link Analysis.

**CS 662 Machine Learning and Data Mining***Specialization Course for MIntS**Restricted Choice for MCS, MIC, PM*

Data Warehouse and OLAP Technology for Data Mining. Data Processing. Data Mining Primitives, Languages, and System Architectures. Concept Description: Characterization and Comparison. Mining Association Rules in Large Databases. Classification and Prediction. Cluster Analysis. Mining Complex Types of Data. Applications and Trends in Data Mining.

**CS 663 Computational Logic***Specialization Course for MIntS**Restricted Choice for MCS, MIC, PM*

Historical introduction. Review of Classical Logic. Abduction and induction. Knowledge representation and knowledge. Reasoning about Actions and Change. Application of Computational Logic.

Declarative Programming. Autonomous Agents. Knowledge-based Robotics. Intelligent Information Integration.

**CS 664 System Analysis and Verification***Restricted Choice for MCS, MIC, MIntS, PM*

Formal methods for system specification and analysis. Concurrent systems and interleaving and partial-order semantics. Transition systems and Kripke structures. Temporal logic (linear and branching). Automatic verification and model-checking. Process algebras: syntax, semantics, equivalence relations and axiom systems. Real-time system analysis (timed automata, timed process algebras and timed temporal logic). The tools SPIN and Concurrency Workbench.

**CS 665 Constraint Solving Methods***Specialization Course for MIntS**Restricted Choice for MCS, MIC, PM*

Review of basic concepts of Finite Domain Constraint Satisfaction. Advanced consistency techniques for binary and non-binary problems. Constraint Satisfaction and Propositional Logic: Modern algorithms and problem reduction techniques. Constraint Satisfaction and Logic Programming. Logic Programming with negation and the Smodels and DLV systems. Relation between Finite Domains and Propositional Logic techniques. Implied Constraints. The Planning problem and Constraint Satisfaction. Temporal Constraint Satisfaction. The CHIP Constraint Programming Language. Modelling in CHIP.

**CS 667 Neuroinformatics***Specialization Course for MIntS**Restricted Choice for MCS, MIC, PM*

Introduction to Neuroinformatics. Conductance-based neuron models. Modeling synapses. Spiking neuron models and response variability. Current topics in Neuroinformatics. Bottom-up/top-down modeling of the brain. Modeling consciousness. Applications of Neuroinformatics (e.g., in medicine); Neuroinformatics vs Bioinformatics; simple introduction to Bioinformatics – applications (e.g., protein secondary structure prediction).

**CS 668 Mechanical Vision***Specialization Course for PM**Restricted Choice for MCS, MIC, MIntS*

Basic concepts and methodologies relating to the subject of Computer Vision. Image information, image processing, feature extraction. Image segmentation, clustering, multiple-image processing, case studies.

**CS 670 Research Methodologies and Professional Practices in Computer Science**

Seminars/lectures in Computer Science and practice. Research or technical literature reviewing. Presentation of technical study.

**CS 673 Algorithmic Game Theory***Specialization Course for MIC**Restricted Choice for MCS, MIntS, PM*

Strategic games. Pure and mixed strategies, utilities, best responses, equilibrium concepts. Pure and mixed Nash equilibria, their refinements and generalisations. Classical existence theorems of equilibria and their algorithmic aspects. Algorithms and complexity of equilibrium searching. The complexity classes PLS and PPAD and their relation to equilibrium computation. Bimatrix games and algorithms to compute their approximate equilibria. The Price of Anarchy and its variants. Analysis of the Price of Anarchy for both general and specific games (e.g., selfish routing

games, congestion games, security games). Applications to realistic cases (e.g., social networks, Internet formation).

### **CS 674 Network and System Security**

*Specialization Course for MIC, PM  
Restricted Choice for MCS, MIntS*

Introduction to security threats and attacks. Cryptographic and cryptanalysis techniques. Key exchange management (PKI). Network and Internet security protocols (IPSec, SSL/TLS). Identification and authentication standards (Kerberos, AAA). System security (Firewalls, IDS). Specific threats on end-systems (viruses, worms, trojan horses, stack overflow, rootkits). Identification of security vulnerabilities in software and operating systems. Checking of networks and applications for vulnerabilities, introduction to computer systems forensics. Security policies. Security management, ethical and legal issues in system security.

### **CS 675 Web Services and Service Oriented Computing**

*Specialization Course for MIC, PM  
Restricted Choice for MCS, MIntS*

Introductory concepts. Relationship and difference between services and other related formalisms (distributed systems, component-based systems, etc). Fundamental architectures and protocols (SOAP, WSDL, UDDI). Fundamental development platforms (J2EE, NET, etc). Problems and challenges. Information modelling and representation (ontologies, RDF and OWL protocols, etc). Co-operative Information Systems and service composition.

### **CS 678 Temporal Information Systems in Medicine**

*Specialization Course for MIntS  
Restricted Choice for MCS, MIC, PM*

The significance of time in medicine. Temporal modelling and temporal reasoning (modelling of time and temporal entities). Requirements, ontologies and models of temporal reasoning. General theories of time and the medical domain. Temporal constraints. Temporal databases and their extensions for clinical domains. Temporal abstraction of medical data (types of abstraction, time-based monitoring of patients). Time and Clinical Diagnosis (diagnostic concepts, example applications, abductive reasoning based on time objects, temporal constraints). Automated support for the formulation and application of therapy plans (time-based modelling of clinical guidelines and protocols). Research challenges.

### **CS 679 Electronic Health (eHealth)**

*Specialization Course for MIntS  
Restricted Choice for MCS, MIC, PM*

Information retrieval from medical databases, data, medical records, live signals, and data mining using intelligent techniques. Study of application systems that are currently in use for managing medical data and suggest ways for better handling and building, medical knowledge bases, electronic health record, and decision support systems for the medical profession.

### **CS 680 Cognitive Programming**

*Restricted Choice for MCS, MIC, MIntS, PM*

In the course students learn the basic elements of Cognitive Science and the relationship between logic and argumentation. They are also taught: computation models for Cognitive Intelligence that follow representational models from Cognitive Psychology; the structure of knowledge and the human mechanism for common logic; the architecture of cognitive systems and their dynamic development cycle. They will learn how to use STAR, IBM Watson and other similar systems in the development of cognitive systems.

### **CS 699 Special Topics in Computer Science**

*Restricted Choice for MCS, MIC, MIntS, PM*

The content of the course is according to the specific topic.

## **Ph.D. Programme**

Apart from the general requirements of the University of Cyprus for the acquisition of a Ph.D. degree, the Department expects Ph.D. candidates to publish their research results in the proceedings of international conferences and, possibly, academic journals.

A Ph.D. programme comprises the completion of postgraduate courses amounting to at least 60 ECTS (holding a relevant M.Sc. Degree may result in full or partial satisfaction of this requirement), success in a comprehensive examination, acceptance of a research proposal and, finally, the submission of an original thesis which represents a substantial contribution to the relevant field of knowledge.

Admission to a Ph.D. programme requires high academic qualifications in Computer Science and the Department's ability to supervise the research topic that is of interest to the students.

## **Research Interests of the Academic Staff**

#### **• Chris Christodoulou, Associate Professor**

Computational and Cognitive Neuroscience, Artificial Neural Networks, Machine Learning, Neuroinformatics and Bioinformatics.

#### **• Yiorgos Chrysanthou, Associate Professor**

Computer Graphics, Virtual and Augmented Reality.

#### **• Marios D. Dikaiakos, Professor**

Network Centric Computing, with an emphasis on Grid Computing, Web Technologies, Mobile Computing.

#### **• Yannis Dimopoulos, Associate Professor**

Artificial Intelligence, Knowledge Representation and Reasoning, AI planning, Non-monotonic Reasoning, Constraint Satisfaction.

#### **• Paraskevas Evripidou, Professor**

Parallel Processing and Computer Architecture, Mobile and Pervasive Computing.

#### **• Chryssis Georgiou, Associate Professor**

Distributed and Parallel Computing (Theory and Practice), Fault-Tolerance and Dependability, Algorithms and Complexity, Dynamic Computing Environments.

#### **• Antonis Kakas, Professor**

Artificial Intelligence, Knowledge Representation and Reasoning, Cognitive Agents, Machine Learning, Computational Bioscience.

#### **• Georgia Kapitsaki, Assistant Professor**

Mobile Internet and Context-aware Services, Model-driven Engineering, Aspect-oriented Programming, Web 2.0 Technologies and Privacy Protection.

#### **• Elpida Keravnou-Papailiou, Professor**

Artificial Intelligence in Medicine.

- **Marios Mavronicolas, Professor**

Algorithmic Game Theory, Distributed and Parallel Computing, Algorithmic Issues in Communication Networks, Computational Complexity.

- **George Pallis, Assistant Professor**

Internet Computing Systems, Web Technologies.

- **George Papadopoulos, Professor**

Component-Based Systems, Parallel and Distributed Systems, Cooperative Information Systems.

- **Constantinos Pattichis, Professor**

Intelligent Systems, Neural Networks, Genetic Algorithms, Signal and Image Processing and Analysis, Telematics and their applications in Medicine.

- **Anna Philippou, Associate Professor**

Concurrency Theory and its applications, Specification and Verification, Formal Methods for Safety-Critical Systems and Semantics of Programming Languages.

- **Andreas Pitsillides, Professor**

Fixed and Wireless/Mobile Networks (including TCP/IP, UMTS, WLAN, ad-hoc and Sensor Networks), Control Theory (including Nonlinear Control, Adaptive Control and Fuzzy Control) with applications to Networking, and Telehealth Care Systems.

- **George Samaras, Professor**

Mobile/Wireless Computing and Data, Mobile Agents, Wireless Personalization Systems, Web Systems, Database Systems, Distributed Transaction Processing and Commit Protocols.

- **Yiannos Sazeides, Associate Professor**

Computer Architecture: Patterns of Computation, Cache Redundancy, Chip Multicores, Power and Temperature Aware Microarchitectures, Prediction, and Speculation.

- **Christos N. Schizas, Professor**

Computational Intelligence, Artificial Neural Networks, Genetic Algorithms, Systems Theory, Computer Applications in Medicine, Engineering, Meteorology, Financial and Diagnostic Systems.

- **Pedro Trancoso, Associate Professor**

Computer Architecture, Memory Hierarchy and Advanced Memory Technologies, Architecture-Aware Optimizations for Database Workloads, and Power-Aware Optimizations.

- **Vasos Vassiliou, Assistant Professor**

High-Speed Networks (MPLS), Mobile Networks (MIP, Ad-hoc, Sensor), Wireless Telecommunications (UMTS), Traffic Engineering.

- **Demetris Zeinalipour, Assistant Professor**

Data Management and Networking: Distributed Query Processing, Storage and Retrieval Methods for sensor and Peer-to-Peer Systems, Network Data Management.

## Contact Details

### Department Secretariat

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**Table of Specialisation Courses of the Master's Programmes**

Code and Title of Course	Master in Computer Science	Master in Internet Computing	Master in Intelligent Systems	Professional Master in Advanced Information Technologies
CS 601 – Distributed Systems	√	√		
CS 602 – Foundations of Web Technologies	√	√		√
CS 603 – Advanced Software Engineering	√			√
CS 604 – Artificial Intelligence	√		√	
CS 605 – Advanced Computer Architecture I	√			√
CS 606 – Computer Networks and the Internet	√	√		√
CS 607 – Visual Computing	√			√
CS 646 – Advanced Topics in Databases	√			
CS 651 – Data Management for Mobile Computing	√	√		√
CS 653 – Computer Games Software Technology	√		√	√
CS 655 – Advanced Computer Architecture II	√			√
CS 656 – Computer Graphics: Modelling and Realism	√			√
CS 657 – Wireless Computer Networks	√	√		
CS 658 – Digital Video Processing	√		√	
CS 659 – Design of Embedded Systems	√			√
CS 660 – Information Retrieval and Search Engines	√	√	√	
CS 662 – Machine Learning and Data Mining	√		√	
CS 663 – Computational Logic	√		√	
CS 664 – System Analysis and Verification	√			
CS 665 – Constraint Solving Methods	√		√	
CS 667 – Neuroinformatics	√		√	
CS 668 – Mechanical Vision	√			√
CS 673 – Algorithmic Game Theory	√	√		
CS 674 – Network and System Security	√	√		√
CS 675 – Web Services and Service Oriented Computing	√	√		√
CS 678 – Temporal Information Systems in Medicine	√	√	√	√
CS 679 – Electronic Health	√		√	
CS 680 – Cognitive Programming	√		√	
CS 699 – Special Topics in Computer Science	√	√	√	√

**Courses from other Departments**

ECE 621 – Random Processes		√		
ECE 635 – Optimization Theory and Applications		√		
ECE 658 – Computer Systems Performance Evaluation and Simulation		√		

# Department of Mathematics and Statistics



*The Department offers postgraduate programmes which lead to the following degrees:*

- *Master in Applied Statistics*
- *Master in Applied Mathematics*
- *Master in Pure Mathematics*
- *Mathematics Education (Interdepartmental Programme)*
- *Ph.D. in Statistics*
- *Ph.D. in Mathematics - Applied Mathematics*
- *Ph.D. in Mathematics - Pure Mathematics*

## **Postgraduate Studies Programmes**

The programmes are supervised by the Postgraduate Programmes Coordinator who can be either the chairperson of the Department or a faculty member appointed by the Departmental Board. The Coordinator is the chairperson of the Postgraduate Studies Committee. The other members are also appointed by the Departmental Board. An interdepartmental committee coordinates the interdepartmental postgraduate programme.

## **Admission to Postgraduate Programmes**

The number of postgraduate students to be admitted is announced separately for each specific programme at the Master's or Doctorate level.

For more information please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

The **Criteria for Evaluation and Ranking of the Candidates** are the following:

- Prior university training in an appropriate field of study and a transcript of the degree. Appropriate fields of study are Mathematics, Statistics or other related subjects such as Computer Science, Physics, Engineering, etc.
- Recommendation letters (at least two) from university professors
- Personal interview (if necessary)
- Other qualifications, such as exams, awards, distinctions, etc.
- Sufficient knowledge of the English language (recommended)

Candidates with insufficient knowledge of mathematics will be required to attend a number of undergraduate courses, in addition to those required by the regulations of the Department.

## **MASTER IN APPLIED MATHEMATICS**

### **Regulations**

For a Master Degree in Applied Mathematics, the successful completion of 93 ECTS is required. Each course corresponds to 10 ECTS, the Master's Thesis to 20 ECTS, each Seminar

to 1 ECTS. All postgraduate students must submit a Master's Thesis (MT).

### Master's Thesis (MT)

All students enrolled in the Master in Applied Mathematics are required to complete a Master's Thesis (20 ECTS). The student must find a faculty member willing to supervise the MT. Students may enroll in the MT class after completing their first semester of studies.

### Choice of topic for the MT

Topics for the MT should relate to the department faculty's areas of expertise, which may be found on the faculty's individual web pages. Students need to discuss the topic of the MT with a faculty member before undertaking the thesis. Students must get the consent of the faculty member who is also their supervisor.

To enroll in the MT, students must register for the following courses:

- MAS 801 MT in Applied Mathematics II (20 ECTS)
- MAS 600 Continuation of MT in Applied Mathematics (0 ECTS)

### Seminars

Postgraduate students must attend the Colloquiums of the Department of Mathematics and Statistics. When available, students may enrol in up to two special seminars (5 ECTS). All colloquiums and seminars are graded with pass or fail.

- MAS 642 Mathematics and Statistics Seminar (1 ECTS)
- MAS 643 Mathematics and Statistics Seminar (1 ECTS)
- MAS 644 Mathematics and Statistics Seminar (1 ECTS)

### Indicative Programme of Study

Options	ECTS per course	Total
6 Compulsory Courses	10	60
1 Elective Course	10	10
3 Colloquiums	1	3
Master's Thesis	20	20
<b>Total</b>		<b>93</b>

### List of Courses

#### Compulsory Courses

##### Category I

Two of the following:

MAS 601 Measure Theory and Integration

MAS 604 Functional Analysis

MAS 606 Function Theory of One Complex Variable

##### Category II

Two of the following:

MAS 603 Partial Differential Equations

MAS 621 Numerical Linear Algebra

MAS 671 Numerical Solution of Ordinary Differential Equations

MAS 673 Finite Element Methods

##### Category III

Two of the following:

MAS 613 Ordinary Differential Equations

MAS 672 Numerical Solution of Partial Differential Equations

MAS 677 Topics in Numerical Analysis I

MAS 678 Topics in Numerical Analysis II

MAS 679 Topics in Numerical Analysis III

MAS 682 Classical Mechanics

MAS 683 Fluid Dynamics

MAS 684 Scientific Computing with MATLAB

MAS 687 Topics in Applied Mathematics I

MAS 688 Topics in Applied Mathematics II

MAS 689 Topics in Applied Mathematics III

MAS 697 Topics in Differential Equations I

MAS 698 Topics in Differential Equations II

MAS 699 Topics in Differential Equations III

*Note: Category III also includes all courses offered under Categories I and II*

#### Elective Courses

MAS 602 Fourier Analysis

MAS 605 Second Order Elliptic Partial Differential Equations

MAS 608 Second Order Evolution Partial Differential Equations

MAS 611 Harmonic Analysis

MAS 617 Topics in Mathematical Analysis I

MAS 618 Topics in Mathematical Analysis II

MAS 619 Topics in Mathematical Analysis III

MAS 620 Approximation Theory

MAS 633 Relativity Theory

*Note: Any postgraduate course offered by the Department of Mathematics and Statistics may be taken as an Elective Course.*

## Ph.D. IN MATHEMATICS - APPLIED MATHEMATICS Requirements for a Ph.D. Degree

For the completion of a Ph.D. in Applied Mathematics, the following are required:

**(1) Prior to the commencement of a Doctoral Dissertation a student must successfully complete at least 120 ECTS at the postgraduate level** (partial or complete exemption may be given by the Departmental Council provided the doctoral student already has a Master's Degree);

**(2) Successful completion of a written Comprehensive Examination (CE)**

Candidates must complete the CE requirement from the first up to the sixth semester of their studies. The CE consists of two, three-hour written examinations. The first written examination must be in Analysis (see the syllabus

in the previous section). The second is based on one of four areas (Applied Mathematics, Numerical Analysis, Partial Differential Equations, Numerical Solution of Ordinary Differential Equations – syllabi are given below); each candidate chooses the area he/she wishes to be tested on.

Once the doctoral candidate successfully completes both parts of the CE, he/she may proceed to the Doctoral Dissertation stage. If the candidate succeeds in only one part of the CE, then he/she may retake the unsuccessful part the next time the CE is held. If the candidate fails both parts, then he/she will be given one more chance to pass the exam during the next CE period. The CE is written and corrected by the department's faculty who specialize in the chosen areas. A pass score on the CE requires a minimum of 50% of the total points.

Failure to pass the CE a second time will automatically result in termination of the candidate's doctoral studies.

The student must pass the CE prior to the submission of her/his Research Proposal.

**(3) Other Requirements**

All other requirements conform to the rules and regulations for postgraduate studies at the University of Cyprus.

**Syllabus for the CE in Applied Mathematics**

Choice of 1 of the following 4 areas:

**Applied Mathematics**

Lie groups and algebras, Equations of Motion (Newton, Lagrange), Poisson structures, Integrable systems, Lax pairs, Bi-Hamiltonian systems, Symmetries, Noether's theorem, variational calculus, integral equations.

**Partial Differential Equations**

First order partial differential equations, Second order partial differential equations: Wave Equation, Heat Equations, Harmonic functions. Initial boundary value problems, Fourier series, Green's functions, Maximum Principle.

**Numerical Analysis**

Numerical solution of nonlinear equations. Vector and matrix norms. Solution of linear systems (direct and iterative methods). Calculation of eigenvalues and eigenvectors. Interpolation (Lagrange and Hermite). Numerical integration (Newton – Cotes, Gauss).

**Numerical Solution of Ordinary Differential Equations**

Single and multi-step methods and Runge-Kutta methods for the numerical solution of initial value problems for ordinary differential equations. Finite

Difference Methods for ordinary differential equations. Finite Element Methods for ordinary differential equations.

**MASTER IN PURE MATHEMATICS**

**Regulations**

For a Master Degree in Applied/Pure Mathematics, the successful completion of 93 ECTS is required. Each course corresponds to 10 ECTS, the Master's Thesis (MT) to 20 ECTS, each Seminar to 5 ECTS and Colloquium attendance to 3 ECTS. All postgraduate students must submit a MT.

**Master's Thesis (MT)**

All students enrolled in the Master Programme in Applied Mathematics are required to complete a Master's Thesis (20 ECTS). The student must find a faculty member willing to supervise the MT. Students may enroll in the MT class after completing their first semester of studies.

**Choice of topic for the MT**

Topics for the MT should refer to the department faculty's areas of expertise, which may be found on the faculty's individual web pages. Students need to discuss the topic of the MT with a faculty member before undertaking the thesis. Students must get the consent of the faculty member who is also their supervisor.

To enroll in the MT, students must register in the following courses:

MAS 802 MT in Pure Mathematics I (20 ECTS)

MAS 600 Continuation of MT in Pure Mathematics (0 ECTS)

**Seminars**

Postgraduate students must attend the Colloquiums of the Department of Mathematics and Statistics. When available, students may enrol in up to two special seminars (5 ECTS). All colloquiums and seminars are graded with pass or fail.

MAS 642 Mathematics and Statistics Seminar (1 ECTS)

MAS 643 Mathematics and Statistics Seminar (1 ECTS)

MAS 644 Mathematics and Statistics Seminar (1 ECTS)

**Indicative Programme of Studies**

Options	ECTS/Course	Total
4 Compulsory Courses	10	40
3 Elective Courses	10	30
3 Colloquiums	1	3
Master's Thesis	20	20
<b>Total</b>		<b>93</b>

## List of Courses

### Compulsory Courses

MAS 601 Measure Theory and Integration  
 MAS 603 Partial Differential Equations  
 MAS 606 Function Theory of One Complex Variable  
 MAS 625 Group Theory **or** MAS 626 Galois Theory  
 MAS 632 Riemannian Geometry

### Elective Courses

MAS 602 Fourier Analysis  
 MAS 604 Functional Analysis  
 MAS 605 Second Order Elliptic Partial Differential Equations  
 MAS 607 Function Theory of Several Complex Variables  
 MAS 608 Second Order Evolution Partial Differential Equations  
 MAS 609 Stochastic Analysis  
 MAS 610 Stochastic Processes  
 MAS 611 Harmonic Analysis  
 MAS 612 Measure and Probability  
 MAS 617 Topics in Mathematical Analysis I  
 MAS 618 Topics in Mathematical Analysis II  
 MAS 619 Topics in Mathematical Analysis III  
 MAS 620 Approximation Theory  
 MAS 622 Coding Theory  
 MAS 623 Number Theory  
 MAS 625 Group Theory  
 MAS 626 Field and Galois Theory  
 MAS 628 Group Representations II  
 MAS 629 Topics in Algebra I  
 MAS 630 Topics in Algebra II  
 MAS 631 Differential Topology  
 MAS 633 General Relativity  
 MAS 634 Algebraic Topology I  
 MAS 635 Lie Groups and Algebras  
 MAS 636 Algebraic Topology II  
 MAS 637 Spectral Geometry  
 MAS 638 Spin Geometry  
 MAS 639 Algebraic Geometry  
 MAS 640 Topics in Geometry I  
 MAS 641 Topics in Geometry II  
 MAS 660 Probability Theory  
 MAS 682 Classical Mechanics

## Ph.D. IN MATHEMATICS - PURE MATHEMATICS

### Requirements for a Ph.D. Degree

For the completion of a Ph.D. in Pure Mathematics, the following are required:

- (1) Prior to the commencement of a Doctoral Dissertation a student must successfully complete at least 120 ECTS at the postgraduate level** (partial or complete exemption may be given by the Departmental Council provided the doctoral student already has a Master's Degree);

### **(2) Successful completion of a written Comprehensive Examination (CE)**

Candidates must complete the CE requirement from the first up to the sixth semester of their studies. The CE consists of two, three-hour written examinations. The CE is based on two of three areas (Analysis, Algebra, Geometry – syllabi are given below), which the candidate is free to choose.

Once the doctoral candidate successfully completes both parts of the CE, he/she may proceed to the Doctoral Dissertation stage. If the candidate succeeds in only one part of the CE, then he/she may re-take the unsuccessful part during the next CE period. If the candidate fails both parts, then he/she will be given one more chance to pass the CE (during the next CE period). The CE is prepared and corrected by the department's faculty members who specialize in the chosen areas. A pass score on the CE requires a minimum of 50% of the total points.

Failure to pass the CE a second time will automatically result in termination of the candidate's doctoral studies.

The student must pass the CE prior to the submission of his/her Research Proposal.

### **(3) Other Requirements**

All other requirements conform to the rules and regulations for postgraduate studies at the University of Cyprus.

## Syllabus for the CE in Pure Mathematics

Choice of 2 of the following 3 areas:

### **Analysis**

Structure and properties of real numbers, continuity, differentiability, Riemann integrability. Metric spaces, compactness, connectedness, Bolzano-Weierstrass Theorem, Heine-Borel Theorem, Baire category Theorem, uniform continuity, convergence of sequences and series of functions.  $\sigma$ -Algebras, outer measures, Borel and Lebesgue measures, measurable functions, Lebesgue-dominated convergence Theorem, monotone convergence theorem, Fatou's Lemma. Signed measures, Radon-Nikodym Theorem, product measures, Fubini's Theorem. The complex plane, stereographic projection. Möbius transformations. Elementary analytic functions. Cauchy-Riemann equations, harmonic functions. Cauchy's integral formula and theorem, Morera's Theorem. Liouville's Theorem. Fundamental Theorem of Algebra. Taylor and Laurent series, residues. Maximum Measure Principle. Schwarz's Lemma, the Argument Principle, Rouché's theorem, conformal mapping, the Riemann mapping Theorem.

**Algebra**

Groups and homomorphisms, Lagrange’s Theorem. Direct and semi-direct products. Cyclic, dihedral and symmetric groups. Free groups, generators and relations, finitely generated Abelian groups. Group actions. Sylow’s Theorem and p-groups. Simple groups, composition series. Solvable groups. Rings and homomorphisms. Ideals. Polynomial rings. Factorization in commutative rings. Modules and exact sequences. Extensions of fields, splitting field of a polynomial, separable extensions, normal extensions. Fundamental Theorem of Galois theory. Roots of unity and cyclotomic polynomials. Solvability by radicals. Symmetric functions and Abel’s Theorem.

**Geometry**

Topological and differentiable manifolds, basic examples and properties. Fundamental group. Tangent spaces. Partitions of unity. Normal values. Vector fields, flows. Frobenius’ Theorem. Differentiable forms. Stokes’ Theorem. Riemannian manifolds. The Riemannian connection and exterior differential forms. Geodesic curves, exponential mapping, normal coordinates, Gauss’ Lemma. Hopf-Rinow Theorem. Curvature. Gauss-Bonnet Theorem. Hadamard-Cartan Theorem.

**MASTER IN APPLIED STATISTICS**

To obtain a Master degree in Applied Statistics successful completion of a minimum of 93 ECTS is required.

**Indicative Programme of Studies**

	ECTS
<b>1st Semester</b>	
MAS 650 Mathematical Statistics	10
MAS 655 Survey Sampling	10
MAS 658 Simulation and Data Analysis	10
MAS 850 Seminar in Applied Statistics I **	1
<b>2nd Semester</b>	
MAS 653 General Linear Models*	10
MAS 659 Multivariate Analysis*	10
MAS Elective Course I <sup>+</sup>	10
MAS 851 Seminar in Applied Statistics II **	1
<b>3rd Semester</b>	
MAS 657 Analysis of Discrete Data*	10
MAS Elective Course II <sup>+</sup>	10
MAS Elective Course III <sup>+</sup>	10
MAS 852 Seminar in Applied Statistics III **	1
<b>TOTAL</b>	<b>93</b>
<b>OPTIONS</b>	
MAS 654 Nonparametric Statistics*	10
MAS 656 Time Series Analysis*	10
MAS 660 Probability Theory	10
MAS 661 Topics in Statistics I	10

MAS 662 Topics in Statistics II	10
MAS 663 Topics in Statistics III	10
MAS 664 Bayesian Statistics*	10
MAS 665 Computational Statistics*	10
MAS 666 Biostatistics*	10
MAS 670 Theory of Statistics	10

*Notes:*

\* *In these courses, the use of statistical software is an integral part.*

\*\* *A mandatory course. Students will attend colloquium lectures. A pass/fail course. Students must enroll in the course every semester.*

+ (a) *Two classes from Options I, II and III can be replaced by a Master’s thesis. The subject of the thesis should be related to Statistical Science. The thesis is carried out under the supervision of a faculty member of the Department.*

+ (b) *If a student does not choose the thesis option, then option III can be replaced by either Independent Study (MAS 667) or by practical training in the private or public sector (MAS 668).*

**Ph.D. IN STATISTICS**

**Requirements for a Ph.D. Degree**

For the completion of a Ph.D. in Statistics, the following are required:

**(1) Prior to the commencement of a Doctoral Dissertation a student must successfully complete at least 60 ECTS at postgraduate level**, in accordance with the provisions of the programme of studies of the Department. Students with a Master’s degree are partially or fully exempted from this requirement.

The 60 ECTS should be completed as follows:

- At least 10 ECTS in Probability Theory (MAS 660)
- At least 10 ECTS in Statistical Theory (MAS 670)
- At least 10 ECTS in Simulation and Data Analysis (MAS 658)

The remaining 30 ECTS may be completed with any postgraduate courses offered by the Department, including reading courses.

**(2) Comprehensive Examination (CE)**

Successful completion of the following CEs with a grade of 7.5 or better:

- CE in Probability Theory (MAS 760) – 0 ECTS
- CE in Statistical Theory (MAS 770) – 0 ECTS
- CE in Simulation and Data Analysis (MAS 758) – 0 ECTS

The CE in Probability Theory (MAS 760) and Statistical Theory (MAS 770) correspond to the final exams for MAS 660 and MAS 670. The CE in Simulation and Data Analysis (MAS 758) is comprised of an open lecture on a project involving data analysis and computations.

The student must complete the CE requirement by the sixth semester of their studies and prior to the submission of their Research Proposal.

### (3) Seminar

All doctoral students must enrol in the Seminar of Applied Statistics for at least 6 semesters.

Seminar Codes	ECTS
MAS 751 Seminar in Applied Statistics (PhD) I	0
MAS 752 Seminar in Applied Statistics (PhD) II	0
MAS 753 Seminar in Applied Statistics (PhD) III	0
MAS 754 Seminar in Applied Statistics (PhD) IV	0
MAS 755 Seminar in Applied Statistics (PhD) V	0
MAS 756 Seminar in Applied Statistics (PhD) VI	0

### (4) Other Requirements

All other requirements conform to the rules and regulations for postgraduate studies at the University of Cyprus.

## The Syllabus Content for the Comprehensive Examination

### PROBABILITY THEORY

Measure theoretic probability, measure theory and integration,  $\sigma$ -algebras, monotone classes, events, probability spaces, stochastic independence, 0-1 laws, the Borel-Cantelli lemmas. Random variables, distribution of a random variable, continuous and discrete random variables, distribution of a function of a random variable, random vectors. Expectation of a random variable, expected value and independence, expected value as the integral with respect to a probability measure, properties of integration, moments, probability inequalities, conditional expectation. Modes of convergence of a sequence of random variables, uniform integrability, convergence of moments, moment generating functions, characteristic functions, theorems of continuity and inversion, infinite divisibility laws and stable laws, central limit theorem, weak and strong laws of large numbers. Properties of random walk, limit theorems, definition and properties of martingales, martingale inequalities, convergence criteria, weak and strong laws for martingales, central limit theorem for martingales.

### STATISTICAL THEORY

Random sample, statistic, families of distributions, exponential families. Estimators (maximum likelihood, least squares, moment estimators, Bayes estimators). Properties of estimators, unbiasedness, sufficiency, consistency. Unbiased estimators of uniformly minimal variance, Fisher information, Cramer – Rao inequality. Rao – Blackwell Theorem and Theorem of Lehmann – Scheffe. Decision theory, simple and composite hypothesis, test statistics, properties of tests. Neyman – Pearson lemma, uniformly most powerful tests. Likelihood ratio tests. Hypothesis testing and confidence intervals. Goodness-of-fit tests, tests of independence, rank tests.

## DIDACTICS AND METHODOLOGY OF MATHEMATICS

(Joint degree programme of the University of Cyprus and the University of Athens)

The Department of Education, the Department of Mathematics and Statistics of the University of Cyprus and the Department of Mathematics of the University of Athens, offer a postgraduate programme leading to a Master Degree in "Didactics and Methodology of Mathematics."

### Aim and Purpose of the Programme

This is a new programme designed specifically for students with an undergraduate degree in mathematics. It entails an enhanced number of course units, which will be fulfilled during special summer sessions at the University of Athens. The degree will be granted by the University of Cyprus.

### Programme Requirements

9 Courses and 3 Seminars are required for the completion of the programme:

- 8 Courses from the area of Didactics and Methodology of Mathematics
- 1 course from the area of History – Philosophy
- 3 Seminars

### Structure of the Programme

The structure of the programme and courses is as follows:

#### OPTION A

8 Courses from the area of Didactics and Methodology of Mathematics (6 X 12 ECTS) + 1 Course from the area of History- Philosophy ( 1 X 12 ECTS) + 3 Seminars (3 X 4 ECTS) = TOTAL 120 ECTS

	ECTS
<b>Didactics of Mathematics</b>	<b>96</b>
Six of the following:	
EDU 501 Teaching of Analysis	12
EDU 671 Cognitive Analysis of Mathematics Learning	12
EDU 672 Topics in the Philosophy and History of Mathematics	12
EDU 673 Mathematics Curriculum: Development and Evaluation	12
EDU 674 Mathematical Problem Solving	12
EDU 675 Recent Trends in Mathematics Education	12
EDU 676 Contemporary Technology in Mathematics Teaching	12

EDU 677 Theories of Representation and Educational Application	12
EDU 678 Affect and Mathematics Learning	12
EDU 679 Space, Visualization and Reasoning Methods	12
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Packages Applications	12
Didactics of Mathematics Theory	12
Mathematics Teaching through Problem Solving	12
Teaching Algebra and Geometry	12
Teaching Probability and Statistics	12
The Integration of New Technology in Teaching Mathematics	12
Mathematics Teaching and History of Mathematics	12
Mathematics Modelling	12
Methods of Research in Teaching Mathematics	12
Special Issues in Teaching Mathematics	12
<b>History – Philosophy</b>	<b>12</b>
One of the following:	
EDU 503 Philosophy of Mathematics	12
EDU 504 Plato and Mathematics	12
MAS 523 Number Theory*	12
MAS 540 Modern Methods for Teaching High-School Mathematics*	12
MAS 584 Mathematics with Computer*	12
MAS 568 Topics in Probability-Statistics I	12
<i>*Note: These courses are offered every three or four semesters.</i>	
<b>Seminars</b>	<b>12</b>
EDU 736 Seminar of Didactics of Methodology of Mathematics I	4
EDU 746 Seminar of Didactics of Methodology of Mathematics II	4
EDU 766 Seminar of Didactics of Methodology of Mathematics III	4
<b>Total</b>	<b>120</b>
<i>Note: The codification of courses is based on the courses offered every semester. Also, courses from other postgraduate programmes of the Department of Education and the Department of Mathematics and Statistics are offered.</i>	

## Course Descriptions

### MAS 601 Measure and Integration

Metric spaces.  $\sigma$ -algebras, measures, outer measures. Borel measures on the real line. Measurable functions. Integration. General convergence theorems. Signed measures. Product measures n-dimensional Lebesgue integral. The Radon Nikodym Theorem.  $L^p$  spaces.

### MAS 602 Fourier Analysis

The Schwarz space. Fourier transform. Plancherel's formula. Convergence of Fourier series and integrals. Applications in partial differential equations. Distributions. Tempered distributions, compactly supported distributions. Sobolev spaces.

### MAS 603 Partial Differential Equations

First order quasi-linear equations, the method of characteristics. Classification and normal forms. Existence theorem of Cauchy-Kovalevskaya and uniqueness theorem of Holmgren. Distributions and weak solutions. Hyperbolic theory, characteristics, propagation of singularities. Wave equation in one, two and three space dimensions. Conservation laws and shock waves. Elliptic theory, Laplace and Poisson equations, fundamental solutions, harmonic functions. Variational formulation of elliptic boundary value problems. Parabolic theory, heat equation, parabolic initial/boundary value problems.

### MAS 604 Functional Analysis

Compact operators. Spectral theory. Self adjoint operators. Closed and orthonormal operators. Spectral theorem. Semigroups.

### MAS 605 Elliptic Partial Differential Equations of Second Order

Laplace equation, fundamental solutions, Green's function, maximum principle, Poisson kernel, Harmonic functions and their properties, Harnack inequalities, equations with variable coefficients, Dirichlet problem, existence and regularity of solutions.

### MAS 606 Function Theory of One Complex Variable

Basic facts about complex functions of one complex variable. Differentiation. Cauchy-Riemann equations. Elementary complex functions. Complex integration and the Cauchy Theorem. Applications of Cauchy Theorem. Meromorphic functions. Power series and Laurent series. Residues. Entire functions and Conformal mappings.

### MAS 607 Function Theory of Several Complex Variables

Basic facts about holomorphic functions of several complex variables. Integral representations of holomorphic functions of several complex variables.

### MAS 608 Evolution Differential Equations with Partial Derivatives of Second Order

Heat equation, fundamental solution, properties of solutions, weak solutions. Maximum principle, wave equations. Solutions with spherical means. Non-homogeneous problem, energy methods, weak solutions, propagation of singularities. Distributions, fundamental solution,  $L^2$  theory, etc.

### MAS 609 Stochastic Analysis

Review of the basic notions of probability theory, stochastic integration, Itô's lemma, stochastic differential equations, applications (financial mathematics, formula Black-Scholes, etc.).

### MAS 610 Stochastic Processes

Basic notions of stochastic processes, Kolmogorov's theorem, discrete and continuous time Markov processes, point processes, Brownian motion, random walk.

### MAS 611 Harmonic Analysis

Approximation to the identity, weak  $L^p$  spaces, interpolation theorems. Maximal functions, harmonic functions, singular integrals, Littlewood-Paley theory. Function spaces.

### **MAS 612 Measure and Probability**

$\sigma$ - algebras, measures, probability measures, measurable functions. Integration theory. Product measures and Fubini Theorem. Lebesgue-Stieltjes measure, ordinary distributions, characteristic functions. Sequences of measurable functions and different notions of their convergence. Central Limit Theorem and related asymptotic developments. The distribution of the recursive logarithm, Radon-Nicodym Theorem. Conditional mathematical expectation. Martingales.

### **MAS 613 Ordinary Differential Equations**

Existence theorems: Picard-Lindelof and Cauchy-Peano. Uniqueness theorem when Lipschitz condition is satisfied. Smooth dependence of solutions on parameters. Extensibility of solutions. Linear systems, fundamental solution matrix, systems with periodic coefficient. Stability of nonlinear systems. Sturm-Liouville theory.

### **MAS 617 Topics in Mathematical Analysis I**

### **MAS 618 Topics in Mathematical Analysis II**

### **MAS 619 Topics in Mathematical Analysis III**

Topics in real analysis, complex analysis or differential equations.

### **MAS 620 Approximation Theory**

Introduction to metric and normed linear spaces. Approximation of functions, best approximation in normed linear spaces. Chebyshev's Theorem, Chebyshev polynomials, wavelet orthonormal bases and characterization of Lebesgue, Sobolev and Besov spaces in terms of their bases. Linear and non-linear approximations.

### **MAS 621 Numerical Linear Algebra**

Elements of matrix analysis, vector and matrix norms. Factorization and least - squares methods. Stability. Direct and iterative methods for the solution of linear systems. Methods for calculating eigenvectors and eigenvalues.

### **MAS 622 Algebraic Coding Theory**

Finite fields. Linear codes, syndrome decoding. Cyclic codes. BCH codes and Reed – Solomon codes. MDS codes. Permutation decoding.

### **MAS 623 Number Theory**

Introduction to algebraic number theory. Quadratic reciprocity, Gauss and Jacobi sums. Field extensions, finite fields, ideal classes. Quadratic and cyclotomic fields. Applications to Diophantine equations.

### **MAS 624 Introduction to Commutative Algebra**

Prime and maximal ideals. Extension. Finitely generated  $R$  – modules. Exact sequences. Tensor product of modules. Algebras. Noetherian rings and Artin rings. Dedekind domains.

### **MAS 625 Group Theory**

Finite groups, Lagrange's theorem, cyclic, dihedral and symmetric groups. Abelian and simple groups. Sylow theorems, nilpotent and solvable groups. Representation theory.

### **MAS 626 Field and Galois Theory**

Polynomial rings. Field extensions, splitting fields. Separable extensions, normal extensions. The fundamental theorem of

Galois theory. Roots of unity and cyclotomic polynomials. Solution by radicals. Symmetric functions and Abel's theorem.

### **MAS 627 Group Representation Theory I**

Representations. FG-modules, FG-submodules and FG-homomorphisms. Maschke's Theorem and Schur's Lemma. Irreducible module. The group algebra, the centre of the group algebra. Characters, relation between characters and representations. Character tables. Frobenius reciprocity theorem.

### **MAS 628 Group Representation Theory II**

Semi simple rings, construction of irreducible  $R$  – modules. Splitting fields. Clifford's theorem. Mackey Decomposition Theorem. Representations of Weyl groups. Representations of compact groups.

### **MAS 629 Topics in Algebra I**

### **MAS 630 Topics in Algebra II**

Topics in Algebra.

### **MAS 631 Differential Topology**

Differentiable manifolds. Tangent space. Partition of unity. Regular points. Sard's theorem. Vector fields and flows. Frobenius Theorem. Differential forms. Stokes Theorem. De Rham's Theorem.

### **MAS 632 Riemannian Geometry**

Riemannian manifolds. Geodesics, exponential map, normal coordinates. Gauss lemma. Theorem of Hopf- Rinow. Curvature. Jacobi fields. Theorems of Bonnet- Myers, Synge-Weinstein and Hadamard - Cartan. Homogeneous and symmetric spaces.

### **MAS 633 General Relativity**

Lorentz geometry. Special relativity. Newton spacetime, Minkowski spacetime. Lorentz transformation. Einstein equations. Special solutions (Schwarzschild).

### **MAS 634 Algebraic Topology I**

Homology theory and applications. Cohomology. Universal coefficient theorem. Products. Künneth formula. Thom isomorphism. Poincare duality.

### **MAS 635 Lie Groups and Lie Algebras**

Differentiable manifolds. Tangent spaces and vector fields. Lie Groups. Exponential function. Homogeneous spaces. The Campbell-Hausdorff formula.

Ado's Theorem. Lie algebras. Ideals and homomorphisms. Solvable and nilpotent Lie algebras. Semisimple Lie algebras. Root systems. Compact Lie groups.

### **MAS 636 Algebraic Topology II**

Obstruction theory. Bundles and K-theory. Bordism. Spectral sequences. Characteristic classes.

### **MAS 637 Spectral Geometry**

Laplace operator. Minimax principle. Isoperimetric inequalities. Heat kernel.

**MAS 638 Spin Geometry**

Clifford algebras. Spin groups and representations. Spin structures. Spin connection. Spin manifolds. Dirac operator. Bochner formula. Lichnerowicz's Theorem.

**MAS 639 Algebraic Geometry**

Algebraic sets and the Hilbert-Nullstellensatz theorem. Affine, projective and quasi-projective varieties, morphisms, products. Local properties (smooth and singular points), tangent space, dimension. Divisors on algebraic curves, Riemann-Roch theorem. Bezout's theorem and the group structure of an elliptic curve. Blow up and resolution of singularities. Lines on hypersurfaces.

**MAS 640 Topics in Geometry I****MAS 641 Topics in Geometry II**

Topics from Differential Geometry, Algebraic Geometry and Algebraic Topology.

**MAS 646, 647, 648, 649 Seminars in Pure Mathematics**

Seminars on special topics of Pure Mathematics.

**MAS 650 Mathematical Statistics**

Univariate and multivariate random variables, distribution function, joint and conditional distribution, independence, moments. Special parametric families of distributions. Estimation. Methods of finding estimators. Properties of estimators, sufficiency, unbiasedness, consistency. Comparison of estimators. Confidence Intervals. Hypothesis testing. Simple and composite hypothesis, power function. Methods of constructing tests. Properties of tests, unbiasedness, consistency. Comparison of tests. Hypothesis testing and confidence intervals.

**MAS 653 General Linear Models**

Linear and multiple regression, residuals and model selection procedures, diagnostics. Analysis of variance and non linear regression. Design of experiments, completely randomized designs, designs with two or more factors with interactions. Block designs, split plot and nested designs.

**MAS 654 Nonparametric Statistics**

Order statistics and their distributions. Tolerance regions. Rank and sign tests for one and two populations. Goodness of fit tests (Kolmogorov – Smirnov, Lilliefors, Shapiro – Wilks). Siegel – Tukey and Kruskal – Wallis tests. Normal and Savage scores. Fisher exact test for 2x2 contingency tables. Mantel – Haenszel test for contingency tables. Kaplan– Meier estimator of the survival function. Jonckheere – Terpstra and Page test for ordered alternatives. Nonparametric correlation coefficients (Spearman, Kendall) and measures of agreement.

**MAS 655 Survey Sampling**

Survey design, sampling and nonsampling errors, simple random sampling, stratified sampling, systematic sampling, cluster sampling, ratio estimators, regression estimators, determination of optimal sample size, bias in survey sampling, modern techniques of survey sampling.

**MAS 656 Time Series Analysis**

Stochastic processes, weak and strong stationarity. Trend and seasonal behavior of time series. Sample autocorrelation function and sample partial autocorrelation function. Prediction.

Parametric families of stochastic processes. ARMA, ARIMA and SARIMA models. Properties, estimation and examples. ARCH and GARCH processes, properties of estimators and examples.

**MAS 657 Statistical Analysis of Discrete Data**

Types of discrete data. Contingency tables and inference (testing independence and homogeneity). Measures of association. Loglinear models for contingency tables. Logit models. Distribution and Inference for categorical data. Asymptotic theory of goodness-of-fit  $\chi^2$  tests. Logistic regression.

**MAS 658 Simulation and Data Analysis**

Introduction to R, commands, input/output files. Descriptive statistics, explanatory data analysis, regression analysis and analysis of variance, statistical inference (testing hypotheses, goodness of fit tests). Resampling, Simulation. Importance sampling.

**MAS 659 Multivariate Analysis**

Random vectors, measures of center and variation in multivariate moments. Multivariate normal distribution. Tests for normality. Estimation of the mean vector and the variance analysis, independence, multivariate – covariance matrix. Wishart and Hotelling distributions. Statistical inference. Union – Intersection Test. Confidence regions. Multivariate analysis of variance and multivariate regression analysis. Least squares method and Wilks distribution. Analysis of covariance. Principal components, factor analysis, discriminant analysis, cluster analysis.

**MAS 660 Probability Theory**

Measure spaces and  $\sigma$ -algebras, independence, measurable functions and random variables, distribution functions, Lebesgue integral and expectation, convergence concepts, law of large numbers characteristic functions, central limit theorem, conditional probability, conditional expectation, martingales, central limit theorem for martingales.

**MAS 661 Topics in Statistics I****MAS 662 Topics in Statistics II****MAS 663 Topics in Statistics III**

Topics from probability theory, statistical theory and their applications, such as categorical time-series, non-parametric and semi-parametric statistics, U-statistics, Bootstrap methods, survival analysis, wavelets and their applications in statistics and time-series analysis, analysis of spatial data, analysis of functional data.

**MAS 664 Bayesian Statistics**

Subjective probability, Bayes rule, prior and posterior distributions, conjugate and non-informative priors, pointwise estimation and credible intervals, hypotheses testing, introduction to Bayesian decision analysis, introduction to empirical Bayes analysis, introduction to Markov chain Monte Carlo techniques.

**MAS 665 Computational Statistics**

Numerical linear algebra: Multiple regression, Cholesky decomposition, diagnostics and collinearity, principal components and eigenvalue problems. Nonlinear statistical methods: Maximum likelihood estimation, Newton-Raphson and related methods, multivariate data and the Newton Raphson method, optimization techniques (unconditional and under constraints) EM algorithm. Numerical Integration and Approximation: Newton-Coates method,

spline interpolation, Monte Carlo integration, general approximation methods. Probability Density Estimation: Histogram, linear and non linear smoothing, splines. Bootstrap.

#### **MAS 666 Biostatistics**

Definition of epidemiology and types of epidemiological studies. Descriptive statistics: graphical and numerical methods for medical data. Measures of association and correlation. Measures of risk and rate. Inference for mean, proportions indicators and coefficients of correlation. Nonparametric tests (Fisher's exact test, McNemar test, etc.). Diagnostic methods, sensitivity and specificity. Numerical methods in clinical epidemiology, ROC curves. Meta - analysis. Censored data. Survival and hazard functions. Nonparametric estimation (Kaplan - Meier and Nelson - Aalén estimators). Methods of comparison of two survival functions (Log - rank, Breslow Peto - Peto tests). Semiparametric estimation (Cox proportional hazards model, partial likelihood). Parametric estimation (exponential, Weibull, log - logistic and lognormal models, proportional odds model). Frailty models.

#### **MAS 667 Statistical Project**

This course requires the completion of a project on a specific statistical problem. The course gives students the opportunity to engage in applications of statistical methodology, to develop and cultivate their research ability, to broaden their knowledge of statistical methodology and to become familiar with various scientific areas where the statistical methodology is applied. This aim is achieved either through the research projects of the faculty members or through projects undertaken by the department for collection and analysis of data. Moreover, the students and particularly those wishing to enter the doctoral program, have the opportunity to familiarize themselves with the research interests of their academic advisor and possibly publish original results.

#### **MAS 668 Practical Training**

Students are placed in organisations in the private or public sector in order to acquire experience in topics that are closely related to their graduate programme of studies. At the end of the training period, the performance of students is evaluated based on a written report by the management of the host organisation.

#### **MAS 670 Statistical Theory**

Stochastic convergence, estimation, asymptotic properties of estimators, efficiency, testing hypotheses, asymptotic properties and efficiency of testing procedures, convergence in metric spaces, stochastic processes.

#### **MAS 671 Numerical Solution of Ordinary Differential Equations**

One-step and multistep methods for initial value problems. Runge - Kutta methods. Numerical solution of two-point boundary value problems.

#### **MAS 672 Numerical Solution of Partial Differential Equations**

Parabolic equations, the heat equation. Stability. The Crank - Nicolson method, ADI methods. Hyperbolic equations, the Courant - Friedrichs - Lewy condition. Elliptic equations, the Poisson equation. Iterative methods for the solution of linear systems.

#### **MAS 673 Finite Element Methods**

Sobolev spaces. Ritz-Galerkin approximation. Variational formulation of elliptic boundary value problems. Finite element spaces. Polynomial approximation in Sobolev spaces. N-dimensional variational problems.

#### **MAS 677 Topics in Numerical Analysis I**

#### **MAS 678 Topics in Numerical Analysis II**

#### **MAS 679 Topics in Numerical Analysis III**

Topics in Computational Mathematics and Approximation Theory.

#### **MAS 682 Classical Mechanics**

Lie Groups and Lie Algebras. Equations of motion (Newton, Lagrange). Poisson structures, Integrable systems, Lax pairs, bi - Hamiltonian systems, Toda lattices. Symmetries of Differential Equations, Noether Theorem.

#### **MAS 683 Fluid Dynamics**

Equations of motion. Viscous flows. Stokes flows. Non-Newtonian and viscoelastic flows.

#### **MAS 684 Scientific Computation with MATLAB**

Introduction to MATLAB. Data and function approximation. Linear Systems. Eigenvalues and Eigenvectors. Ordinary Differential Equations. Numerical Methods for boundary value problems.

#### **MAS 687 Topics in Applied Mathematics I**

#### **MAS 688 Topics in Applied Mathematics II**

#### **MAS 689 Topics in Applied Mathematics III**

Topics from different areas of Applied Mathematics

#### **MAS 690, 691, 692, 693 Seminars in Applied Mathematics**

Seminars on special topics of Applied Mathematics

#### **MAS 697 Topics in Differential Equations I**

#### **MAS 698 Topics in Differential Equations II**

#### **MAS 699 Topics in Differential Equations III**

Topics in Ordinary Differential Equations, Partial Differential Equations, Potential Theory, Calculus of Variations.

### **Research Interests of the Academic Staff**

#### **• Sergios Agapiou, Lecturer**

Bayesian Inverse Problems, Computational Statistics.

#### **• Anastasia Baxevari, Assistant Professor**

Random Spatio-temporal fields, Non-Gaussian Stochastic Models, Stochastic Processes, Environmental Statistics.

#### **• Nelia Charalambous, Associate Professor**

Global Analysis, Mathematical Physics.

#### **• Tasos Christofides, Professor**

U-Statistics, Probability Inequalities, Sampling, Stochastic Orders.

#### **• Cleopatra Christoforou, Assistant Professor**

Partial Differential Equations, Applied Analysis, Continuum Physics and Hyperbolic Systems of Conservation and Balanced Laws. Zero Viscosity Method and Shock Waves.

• **Pantelis Damianou, Professor**

Lie Groups, Hamiltonian Systems, Differential Geometry, and Number Theory.

• **Konstantinos Fokianos, Professor**

Integer-Valued Time Series, Semiparametric Statistics, Analysis of Spatial Data, Analysis of Large Data Sets, Bioinformatics.

• **Georgios Georgiou, Professor**

Numerical Analysis, Numerical Solution of partial differential equations, Numerical simulation of Newtonian and viscoelastic flow, Hydrodynamic stability, Computational Oceanography.

• **Evis Ieronymou, Assistant Professor**

Arithmetic Algebraic Geometry, Number Theory.

• **Andreas Karageorghis, Professor**

Numerical Analysis, Computational Mathematics, Boundary and Spectral Methods for the Numerical Solution of Differential Equations.

• **Stamatis Koumandos, Professor**

Harmonic Analysis, Orthogonal Polynomials, Special Functions, Approximation Theory, Analytic Number Theory.

• **George Kyriazis, Professor**

Approximation Theory, Harmonic Analysis.

• **Emmanouel Milakis, Assistant Professor**

Partial Differential Equations, Free Boundary Problems, Geometric Measure Theory.

• **Christos Pallikaros, Associate Professor**

Group Representation Theory, Representations of Hecke Algebras.

• **Efstathios Paparoditis, Professor**

Time Series Analysis, Bootstrap Methods, Multivariate Analysis, Non-parametric Statistics.

• **Evangelia Samiou, Associate Professor**

Riemannian Geometry.

• **Theofanis Sapatinas, Professor**

Functional Time Series Prediction, Estimation and Inference in Functional Mixed – Effects Models, Theory and Practice of Wavelets in Statistics and Time Series, Non-parametric Regression and Inverse Problems.

• **Yiorgos-Socratis Smyrlis, Professor**

Partial Differential Equations, Numerical Analysis, Fluid Dynamics.

• **Christodoulos Sophocleous, Professor**

Mathematical Physics, Non-Linear Optics and Non-Linear Partial Differential Equations.

• **Nikos Stylianopoulos, Professor**

Numerical Analysis (Numerical Linear Algebra, Numerical Solution of P.D. E's) and Computational Complex Analysis (Conformal Mapping, Approximation in the Complex Plane, Orthogonal Polynomials).

• **Nicolaos Tziolas, Associate Professor**

Algebraic Geometry.

• **Alekos Vidras, Professor**

Complex Analysis (Multidimensional Residues, Mean Periodicity), Carleman Formulas, Bohr phenomena.

• **Christos Xenophontos, Professor**

Numerical Analysis, Computational Mathematics, Numerical Solution of Partial Differential Equations, Finite Element Methods.

**Contact Details**

**Department Secretariat**

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[www.ucy.ac.cy/mas/en](http://www.ucy.ac.cy/mas/en)



# Department of Physics



*The objective of the postgraduate programme in Physics is to promote research and knowledge in the area of Physics. The Department offers post-graduate programmes leading to M.Sc. and Ph.D. degrees in Pure and Applied Sciences.*

## **The Objective**

A deep understanding of current and new physical principles comes through the creation of theoretical models and, of course, their experimental verification. The objective target is the combination of all these theories and the understanding of the physical world. The results of these efforts are the promotion of new knowledge, which can be used in order to improve the standard of living. Electronic devices, telecommunications, artificial fibers, lasers and detectors are some of the technological applications. Also, solutions to many problems such as environmental pollution, the discoveries of new energy sources, and the protection from physical catastrophes are found through progress and achievements in fundamental and applied physics.

Postgraduate physics students can be employed in regional industry or in high technology companies; they can become researchers/teachers in research centres/universities; or, they can become teachers in secondary schools.

Since the study of physics not only provides knowledge in the field but also offers a unique and efficient way of solving problems, postgraduate students in physics are usually employed in other disciplines.

## **Postgraduate Programmes**

The Department of Physics offers M.Sc. and Ph.D. degrees in Physics. The student must successfully complete a number of graduate courses with a minimum of 120 ECTS. Fifty of these ECTS correspond to five mandatory core courses, whereas 10 ECTS correspond to an elective course in the area in which the student will specialise. The remaining 60 ECTS are fulfilled by the successful completion of the M.Sc. thesis.

Postgraduate students in the Doctoral Programme must pass the five (5) compulsory core courses and one (1) specialization course. After the successful completion of these six (6) postgraduate courses, the candidate must pass a comprehensive examination. Candidates must also take at least 40 ECTS in courses in addition to the five (5) core courses. These courses should comprise specialization courses relevant to their field, as well as at least one course outside their area of specialization. The possession of an M.Sc. degree partially or completely exempts students from the required completion of the above 90 ECTS. The final requirement for the Doctorate degree is the submission of an original thesis. After the completion of the thesis, students will defend their work before a five-member committee.

## M.Sc. IN PRINCIPLES OF PHYSICS

The Department of Physics has created an innovative M.Sc. programme targeted at high school teachers, called "M.Sc. in Principles of Physics". This is a University-approved programme that has been running since 2007. Thirty places are advertised each year.

This programme does not lead to a specialization in a particular field. It aims to familiarize students with current developments in a wide range of theoretical and experimental disciplines of Physics, as well as develop their holistic skills, so that they are able to tackle any subject in Physics using fundamental principles and methods. Thus the students will be able to address problems from areas hitherto unknown to them, applying techniques and methods that they have encountered in various fields of Physics. Their undergraduate knowledge will evolve, constituting at the end a solid body of principles, methods and techniques. This programme is designed, in particular, for high school teachers who would like to further their versatility in all areas of Physics. No dissertation is required.

## Table of Courses

	ECTS
<b>Core Courses for Master and Ph.D.</b>	
PHY 625 Quantum Mechanics I	10
PHY 626 Quantum Mechanics II	10
PHY 631 Electromagnetism	10
PHY 641 Statistical Physics	10
PHY 811 Experimental Physics	10
<b>Master</b>	
Specialization Course	10
PHY 860 Master's Thesis I	10
PHY 861 Master's Thesis II	20
PHY 862 Master's Thesis III	30
<b>Master in Principles of Physics</b>	
PHYS 681 Quantum Physics	10
PHYS 682 Problems in Classical Mechanics	10
PHYS 683 Modern Concepts of Space, Time and Matter	10
PHYS 684 Natural Phenomena	10
PHYS 685 Physics Lab	10
PHYS 686 Electronics	10
PHYS 687 History of Physics	10
PHYS 689 Project	10
PHYS 690 Methodology of Science	10
<b>Ph.D.</b>	
Three Specialization Courses	30
One Course outside the area of specialization	10
PHY 870 Research Stage I	30
PHY 871 Research Stage II	30
PHY 872 Research Stage III	30
PHY 873 Research Stage IV	30
PHY 880 Writing Stage I	15
PHY 881 Writing Stage II	15

## Research Interests

The Department accepted its first postgraduate students in 1994. These postgraduate students, in addition to their research activity, have also helped in the organisation of the Department laboratories.

The Department staff participates in research programmes in collaboration with research centres and universities abroad as well as research programmes of the European Community, which are increasing annually. In addition, the Department works with regional industry and other research communities in Cyprus.

The research interests of the Department focus on the following areas:

- Theoretical and Experimental Nuclear Physics
- Theoretical and Experimental High Energy Physics
- Photonic, Lasers and Optoelectronics
- Theoretical and Experimental Condensed Matter Physics
- Theoretical and Computational Biophysics

## Course Descriptions

### Core Courses

#### PHY 625 Quantum Mechanics I (10 ECTS)

- Double Slit Experiments: The Complementarity Principle is more fundamental than the Uncertainty Principle, its quantification with recent inequalities, Quantum Eraser.
- Dirac Formalism: Application but also its "dangers" (cases of Hermiticity but non-self-adjointness), Emergent non-Hermiticity in Ehrenfest and Hellmann-Feynman Theorems.
- Position and Momentum Representations: Systems with Spatially-uniform Force Fields, Propagators, Harmonic Oscillator.
- Schrödinger Picture: Conservation Laws, Dynamical Symmetries and Degeneracies, Galilei Transformation.
- Angular Momentum (orbital and spin): Pauli Algebra, Systems with Bound States.
- Quantum Particle in External Electric and Magnetic Fields: Gauge Transformations (ordinary but also singular), Magnetic Aharonov-Bohm (AB) effect and relevant Nanosystems, Electric fields and time-dependent Hamiltonians, Electric AB Effect, Landau Levels, Quantum Hall Effect.
- Perturbation Theories and Time-dependent Phenomena.
- Adiabatic Approximation: Geometric and Topological Phases (Berry curvature, Aharonov-Anandan phase).

#### PHY 626 Quantum Mechanics II (10 ECTS)

- Symmetries: Definition, Types of Symmetries, Physical Consequences. Symmetries of Classical and Quantum Mechanics. Lorentz group, Unitary Groups. Noether's Theorem.
- Relativistic Quantum Mechanics: Klein-Gordon, Dirac Equation. Relativistic Spin. Relativistic Study of Hydrogen. Elements of Second Quantization.
- Classical Fields: Action of Electromagnetism. Gauge Symmetry. Non-Abelian Fields; Application to the Standard Model.

- Scattering Theory: Asymptotic States. Born Approximation. Optical Theorem. Partial Waves. Analytic Properties of Scattering Amplitudes. Resonances.
- Topics in Perturbation Theory: Time-dependent Perturbations. Radiation Emission, Absorption. Raman Scattering.
- Functional Integrals: Heisenberg - Schroedinger Pictures. The Propagator as a sum over paths.
- Many-body Systems: Atoms. Computational Methods. Hartree-Fock Approximation.

#### **PHY 631 Electromagnetism (10 ECTS)**

- Electrostatics and Magnhstostatics: Boundary Value Problems, Electric and Magnetic Dipole Moments, Multipole Moments, Static Fields in matter, Conductors, Dielectrics, Magnetic Materials, Electromagnetic Forces and Energy.
- Time Varying Fields: Maxwell Equations, Gauge Transformations, The Electromagnetic Energy Density, Poynting Vector and Maxwell Stress Tensor, Conservation Laws, Advanced and Retarded Green Functions, Lorentz Transformations of the Electromagnetic Fields.
- Electromagnetic Waves in matter, Dispersion, Applications in Optics, Waveguides, Simple Harmonic Radiating Systems, Dipole Radiation, The Lienard-Wiechert Potentials, Radiation by moving charges and applications.

#### **PHY 641 Statistical Physics (10 ECTS)**

From Quantum Mechanics to Statistical Mechanics, coherence-decoherence transition, from the wave function to the density matrix, Ensembles in Statistical Mechanics, the concept of entropy, the role of second law of Thermodynamics, the three basic ensembles (microcanonical, canonical, grand canonical), the partition function, the free energy Helmholtz and Gibbs, energy and density fluctuations, from the Schrodinger equation to the equation of state, the ideal gas in canonical and grand canonical ensemble, the ideal Fermigas, Bose systems, photons and phonons, Bose-Einstein condensation, the principles of Classical Statistical Mechanics, phase space and the Liouville theorem, equipartition theorem, real gases, cluster and virial expansion, phase transitions, the Lee-Yang Theory, the Ising model, critical phenomena, order parameter, correlation length, critical exponents, the scaling hypothesis, Goldstone excitations, the Ginzburg-Landau Theory, critical and tricritical points, anomalous dimensions, the Kadanoff-Wilson Theory, introduction to the renormalization group.

#### **PHY 811 Graduate Experimental Physics (10 ECTS)**

- **Fluorescent/phosphorescent Decay Time:** use of an optical setup with a pulsed laser to excite a variety of fluorescent and/or phosphorescent materials in order to determine characteristic decay times. The time dependent information is obtained via the use of boxcar integrator electronics.
- **Gamma ray Spectroscopy:** use of an ultra-pure Ge detector at low temperature for measurements of gamma ray spectra. Use of specialised pulse amplification and conditioning electronics.
- **Non-ionising Radiation:** use of a spectrum analyser for the analysis of electromagnetic signals ranging in frequency from 10 Hz to 10 GHz.
- **Photothermal Radiometry:** Measurement of photo-induced thermal response. Use of cryogen cooled infrared photodetector and acousto-optically modulated photoexcitation in combination with a lock-in technique.

- **Paramagnetic Resonance:** Measurement of the gyromagnetic ratio of the electron using an electron spin resonance experiment and lock-in techniques.

### **Specialization Courses**

#### **PHY 650 Quantum Field Theory I (10 ECTS)**

The Dirac Equation. Compatibility with Special Relativity. Relation to the Pauli Equation. Solutions of the free equation and their interpretation. The Klein-Gordon Equation for a scalar field and its quantization. Quantization of fermions. Quantization of photons. Discrete symmetries C, P, T. The relation between spin and statistics. Interacting fields and their quantization. The S matrix. Relativistic Kinematics. Phase space. Covariant Perturbation Theory. Calculation of cross sections and decay amplitudes in Quantum Electrodynamics at tree level. Calculation of weak decays. Comparison of Fermi's weak Hamiltonian to the Standard Model.

#### **PHY 651 Ultrashort Laser Pulse Phenomena (10 ECTS)**

Characteristics of femtosecond pulses, femtosecond optics, light-matter interaction, coherent phenomena, ultrashort sources, femtosecond pulse amplification, pulse shaping, measurement techniques of femtosecond spectroscopy, generation of extreme wavelengths.

#### **PHY 652 Fiber Optics and Applications in Telecommunications (10 ECTS)**

Introduction to fiber optics, planar waveguides, fiber optics fundamentals, materials and fabrication of optical fibers and cabling, non-linear phenomena in optical fibers, fiber optics in telecommunications and the revolution of fiber Bragg gratings. Photosensitivity in optical fibers, properties of fiber Bragg gratings, fabrications of Bragg gratings in optical fibers, theory of Bragg gratings in optical fibers, applications of fiber Bragg gratings in telecommunications.

#### **PHY 653 Quantum Field Theory II (10 ECTS)**

- Radiative corrections in Quantum Electrodynamics: Introduction to Renormalization, Magnetic moment of the electron, Ultraviolet and infrared divergences in loop diagrams, Renormalization of the fermionic field and the electric charge, LSZ reduction, The Optical Theorem, The Ward Identity.
- The systematics of Renormalization. Dimensional Regularization. Perturbation Theory to one loop and beyond.
- Functional Quantization: Functional Integrals in Quantum Mechanics and Field Theory, Connection to Statistical Mechanics, Quantization of fermions and gauge fields.
- Renormalization a la Wilson, Renormalization Group: The Callan-Symanzik Equation, Running coupling constant.
- Non-Abelian Gauge Theories: Gauge symmetries, Yang-Mills theory, Feynman rules, Faddeev-Popov quantization and ghosts, BRST transformation, Asymptotic Freedom.
- The Standard Model: Spontaneous Symmetry Breaking and Goldstone bosons, Higgs Mechanism and Mass Generation, CKM Mass Matrix, CP violation. One loop study of the decays of the Higgs particle and the top quark.

#### **PHY 654 Ultrafast Spectroscopy of Semiconductors and Semiconductor Nanostructures (10 ECTS)**

Semiconductor Basic concepts, Band Structure, Exciton, Phonons in Semiconductors, Scattering Processes in Semiconductors, Carrier Relaxation, Carrier Transport, Ultrafast Lasers, Ultrafast Spectroscopy

Techniques, Interpretation of Results. Coherent Spectroscopy of Semiconductors, Initial Relaxation of Photo-excited Carriers, Cooling of Hot Carriers, Phonon and Exciton Dynamics, Carrier Tunnelling in Semiconductor Nanostructures, Carrier Transport in Semiconductor Nanostructures, Monte-Carlo Simulation of Carrier and Phonon Dynamics, Experimental Pump-probe techniques, Luminescence Spectroscopy.

#### **PHY 655 Lattice Gauge Theories (10 ECTS)**

The Path Integral Approach to Quantization. Euclidean Quantum Field Theory. Quantum Fields on a Lattice. Continuum Limit and Critical Behavior. The Free Scalar Field on the Lattice. Fermions on the Lattice. Wilson Fermions, Kogut-Susskind Staggered Fermions, Nielsen-Ninomiya Theorem. Abelian Gauge Fields on the Lattice and Compact QED. Non-Abelian Gauge Fields on the Lattice, Compact QCD. Strong Coupling Expansion. Hopping Parameter Expansion. Quark-antiquark Potential. Glueball Spectrum. Phase Structure of Lattice Gauge Theory. Weak Coupling Expansion in Scalar Theories and in QCD. The Continuum Limit of Lattice QCD. The Beta Function and Asymptotic Freedom. Monte Carlo Methods. Numerical Simulation and Markov Processes. Algorithms: Metropolis, Heatbath, Overrelaxation. Simulation of Fermions: Hybrid Monte Carlo, Multiboson Algorithms. Deconfinement and Chiral Phase Transition. High Temperature Phase of QCD.

#### **PHY 656 Modern Topics in Theoretical Condensed Matter Physics (10 ECTS)**

Electrons in a Magnetic Field: Integer and Fractional Quantum Hall Effect (Composite Fermions), Two-dimensional Electron-hole Systems and their hidden symmetries (conservation of pseudomomentum). Wigner Crystal and Competitive Phases. Graphene, Topological Insulators, Topological (Dirac and Weyl) Semimetals, Topological Superconductors and Majorana Fermions.

#### **PHY 657 Quantum Many-Body Theory and Applications in Solid State Physics (10 ECTS)**

Fock Space - Second Quantization. Many-particle Green's Functions - Matsubara Formalism. Linear Response Theories. Coulomb Systems - Dielectric Formulation - Screening. Phase Diagram of Interacting Electrons. Functional Integrals and Hubbard-Stratonovich Transformation: Application to Plasmons and Superconductivity (Nambu-Gorkov Formalism).

#### **PHY 658 Physics of Hot and Compressed Nuclear Matter (10 ECTS)**

- Creation of hot and dense nuclear matter in relativistic heavy-ion collisions
- Chiral dynamics of Quantum Chromodynamics
- Chiral symmetries
- Breakdown and restoration of chiral symmetry in hot and dense hadronic medium
- Experimental evidence of chiral symmetry restoration in heavy-ion collisions
- Creation of particles and resonances near to the production energy threshold
- Production of vector mesons in hadronic nuclear medium
- Production and spectroscopy of di-leptons in heavy-ion collisions

#### **PHY 659 Advanced Topics in Nuclear Physics (10 ECTS)**

- Fundamental building blocks and interactions in the subatomic nucleus
- Creation and interactions of composed nuclear systems
- Chiral symmetry and chiral dynamics in Quantum Chromodynamics (QCD)
- Nuclear reactions
- Production of mesons and resonances
- Particle accelerators and particle detector systems

#### **PHY 660 Exotic States of Matter in a Magnetic Field (10 ECTS)**

Integer Quantum Hall Effect in Conventional Heterostructures and Quantum Anomalous Hall Effect in Graphene. Topological Insulators and Dirac and Weyl Semimetals in a magnetic field, Exotic Magnetoelectric Properties (with appearance of magnetic monopoles), Fractional Quantum Hall Effect and Composite Fermions. Wigner Crystal in 3- and 2-Dimensional Condensed Matter, Competition with Laughlin Liquid and with Fractional Quantum Hall Effect States. Paired Electronic States and the Passage to Exotic Superconductivity. Bubble and Stripe Phases in Higher Landau Levels.

#### **PHY 661 Advanced Topics in Particle Physics (10 ECTS)**

- The Quark-Parton Model
- Deep Inelastic Scattering and Sum Rules
- Weak Interactions
- Gauge Theories in Fundamental Interactions
- Electroweak Unification: The Glashow-Weinberg-Salam Model
- Problems of the Standard Model
- Supersymmetry and Dark Matter

#### **PHY 662 Special Topics in Particle Physics (10 ECTS)**

- Neutrino Oscillations
- Electron-Positron Collider Physics
- Proton- (Anti)Proton Collider Physics
- Detectors and Methodology for New Particle Searches
- Cosmology and Particle Physics

#### **PHY 663 Measurement and Detection Techniques of Nuclear Radiation (10 ECTS)**

- Introduction to nuclear radiation
- Statistical distributions and experimental errors in radiation measurements
- Interaction of nuclear radiation with matter
- Nuclear electronics
- Gas-filled detectors
- Scintillation detectors
- Semiconductor detectors
- Introduction to nuclear spectroscopy
- Determination of activity concentration of radioisotope
- Dosimetry
- Application of nuclear radiation to medicine

#### **PHY 664 Statistical and Computational Physics of Biomolecular Systems (10 ECTS)**

##### **A. Theoretical topics (5 weeks)**

- Elements of protein and nucleic acid structure
- Intra- and intermolecular interactions in biomolecular systems

- Thermodynamics of biomolecular systems
- The effect of solvent on the thermodynamic stability of biopolymers. Implicit solvent models (from liquid state theory and continuum electrostatics)
- Statistical mechanical theories of protein stability and folding

#### B. Computational topics (4 weeks)

- Hamiltonians employed in atomic-detail simulations of biomolecules
- Molecular Dynamics (MD) simulations. Basic concepts (MD algorithms; MD in various ensembles; Langevin dynamics)
- MD simulation methods for the efficient sampling of biomolecular phase space
- Monte Carlo (MC) simulations; General methodology
- MC simulation methods for the efficient sampling of biomolecular phase space
- Protein folding simulations in implicit and explicit solvent
- Free-energy calculations in biomolecular systems Theory and implementation

#### C. Computational applications (3 weeks)

This part is carried out as a set of computational exercises, utilizing specialized software (e.g., CHARMM, UHBD):

- Energy minimization methods and determination of normal modes of vibration in biomolecular systems
- MD simulations in vacuum; Heating, equilibration and production stages
- MD simulations with implicit solvent models
- MD simulations in explicit solvent; periodic boundary conditions; stochastic boundary conditions
- Principal Component Analysis of MD trajectories
- Free-Energy Perturbation calculations; application in biomolecular systems
- Determination of the electrostatic field of a solvated biomolecule by finite-difference solution of the Poisson-Boltzmann equation

#### PHY 665 Quantum Mechanics of Biomolecular Systems: Theoretical and Computational Methods (10 ECTS)

##### 1. Electronic and Vibrational States of Molecules

- The Born-Oppenheimer approximation
- Molecular electronic states and potential energy surfaces
- Molecular vibrational states and normal coordinates
- The adiabatic and diabatic representations of the molecular Hamiltonian

##### 2. Quantum Mechanics of Open Systems

(The density matrix formalism for the interaction of a system with a bath)

- The reduced density matrix for a system interacting with a bath
- The bath correlation function
- Quantum master equations
- The Markov approximation and the Redfield equations for the calculation of quantum transition rates within the system
- Numerical examples

##### 3. Methods for the Computation of the Electronic Structure of Molecules

- Many-electron states
- The Hartree-Fock method
- The density functional method

- Methods based on perturbation theory
- Configuration interaction methods
- Computational examples

#### 4. Applications to Biomolecular Systems

Charge transfer reactions:

- Marcus and Levich-Dogonadze theories
- Electron transfer pathways in proteins
- DNA electron transfer
- Proton transfer in enzymatic reactions

Energy transfer reactions:

- Relaxation and redistribution of vibrational energy in biomolecules
- Exciton transfer in photosynthesis

#### PHY 667 Group Theory in Physics (10 ECTS)

**Symmetries:** Definition, Physics Consequences of Symmetries, Symmetries in Classical Mechanics and in Quantum Mechanics. Discrete/Continuous Symmetries, Local/Global Symmetries.

**Finite groups:** Reducible Representations, Characters, Schur's lemma, Tensor Products, Permutation groups, Young Tableaux, Crystallography groups, Brillouin Zones in Crystals, Energy Level Splitting in Atoms.

**Continuous groups:** Lie groups, Lie Algebras.

**Rotation group:** Representations in Classical Mechanics, Angular Momentum in Quantum Mechanics, Clebsch-Gordan Coefficients, Lorentz group and its Spinorial Representations.

**Root and weights:** Dynkin Diagrams, Classification of Classical groups.

**SU(N) groups in Particle Physics:** Isospin, Hypercharge, Hadronic Spectrum, Construction of Grand Unification Models.

**Supersymmetry:** Supersymmetric Algebras and Groups, Applications to the Minimal Symmetric Standard Model and to Supergravity.

**Infinite Dimensional Algebras:** Virasoro algebra, Kac-Moody algebra. Applications in Conformal Field Theory and String Theory.

#### PHY 668 Terahertz Pulse Spectroscopy

This course will provide an up-to-date reference on state-of-the-art terahertz spectroscopic techniques, focusing particularly on time-domain methods based on femtosecond laser sources and reviewing important recent applications of terahertz spectroscopy in Physics. The course will cover the following:

- Terahertz Time-Domain Spectroscopy with Photoconductive Antennas.
- Nonlinear Optical Techniques for Terahertz Pulse Generation and Detection-Optical Rectification and Electro-optic Sampling.
- Time-Resolved Terahertz Spectroscopy and Terahertz Emission Spectroscopy.
- Time-Resolved Terahertz Studies of Carrier Dynamics in Semiconductors.
- Superconductors and Strongly Correlated Electron Materials.
- Time-Resolved Terahertz Studies of Conductivity Processes in Novel Electronic Materials.

### PHY 669 Optical Properties of Semiconductors

**Energy States:** Phonons, Electronic/Excitonic States, Impurity States, Perturbation of States by Strain/Temperature/Electric/Magnetic Fields

**Optical Absorption:** Interband/Intraband/Excitonic Absorption, Free Carrier/Lattice Absorption, Kramers-Kronig Relationships, Optical Constants, Absorption Spectroscopy

**Emission:** Einstein Relationships, Interband/Excitonic Emission, Impurity Radiative Transitions, Luminescence Spectroscopy

**Non Radiative Transitions:** Recombination via Surface States/Defects/Impurities, Auger

**Optical Properties of Quantum Structures:** Quantum Well/Dots/Wires, Carbon Nanostructures

Light Emission Devices: Light Emitting Diodes, Lasers

**Magneto - Optical Effects:** Faraday/ Voigt/ Kerr Effects, Magneto-Absorption/Luminescence, Magneto-Optical Techniques

**Photovoltaic Structures:** Optical Properties of Solar cells: p-n junction, Schottky, Inorganic/Organic/Hybrid Hetero-structures

### PHY 670 Spintronics

**Introduction:** Spin Physics in Solids, Spin Relaxation Mechanisms, Spin-Orbit Interaction, Spin Coherence in Semiconductors.

**Spin Dependent Electronic Transport:** Spin Diffusion, Spin Tunnelling, Spin Injection/detection, Optical Spin Orientation and Spin Pumping. Giant and Tunnelling Magnetoresistance (GMR and TMR), Local and Non- local Phenomena.

**Pure Spin Currents:** Spin Hall Effect (SHE or ISHE), Spin Caloritronics.

**Spintronic Devices:** Magnetic Recording, Magneto-resistive Random Access Memory (MRAM), Spin-Transfer Memory and Oscillators, Spin Transistors, Spin Lasers, Devices for Logic or Quantum Computing.

### PHY 671 Nanomagnetism and Applications

**Introduction:** Magnetic Materials, Units in Magnetism, Contributions to Magnetic Energy, Domains and Domain Walls.

**Magnetism in Low Dimensions:** Anisotropy in Reduced Dimensions, Magnetic Textures in Thin Films and Nanostructures, Domain Walls.

**Dynamics:** The Landau-Lifshitz-Gilbert Equation, Ferromagnetic Resonance, Domain Wall Motion.

**Experimental Techniques:** Static and Dynamic Magnetometry, Magnetic Imaging, Ultra High Purity Crystal Nanostructure Growth.

**Exotic States of Magnetic Textures:** Domain Wall Bound States, Vortices, Skyrmions.

## Course Descriptions for M.Sc. in Principles of Physics

### PHYS 681 Quantum Physics (10 ECTS)

Basic principles of quantum mechanics: linearity and superposition, correspondence of operators and observables, Schrodinger's equation, applications in nontrivial geometries and many dimensions. Perturbation theory, variational method, numerical and graphical solutions in complicated potentials. Nonlinear Schrodinger's equation.

### PHYS 682 Problems in Classical Mechanics (10 ECTS)

Dimensional analysis, estimates of various quantities, Fermi problems, historical evolution of the principles of physics, principle of least action, principle of minimum potential energy, changes in scale, symmetries, conservation of momentum, Fermat's principle, conservation of angular momentum, conservation of energy, Runge Lenz symmetry in Keplerian orbits, relativity of motion, equivalence principle, discrete symmetries, topology, complementarity of fullness and emptiness, finite and infinite space, phase transitions and their mechanical analogue, solving problems with conservation laws or with forces, the concept of equilibrium, oscillations, coupled systems, nonlinear phenomena, chaos, patterns.

### PHYS 683 Modern Concepts of Space, Time and Matter (10 ECTS)

Special relativity: problems and philosophical repercussions, matter and space in general relativity, equivalence principle, Mach's principle. Basic concepts of quantum mechanics: wavefunction and its collapse, uncertainty principle, EPR paradox, nonlocal correlations, quantum computers and quantum cryptography, teleportation, stopped light. Quantum fields, virtual particles, the structure of the void.

### PHYS 684 Natural Phenomena (10 ECTS)

Dimensional analysis, orders of magnitude in everyday life and in physical theories. Explanations of phenomena of everyday life using mechanics, heat, hydrostatics, acoustics, waves, optics, meteorology, electricity. Simple phenomena with complex physical explanations. Some examples are taken from "The flying circus of Physics" by Jearl Walker and from the American Journal of Physics.

### PHYS 685 Physics Lab (10 ECTS)

A selection of unusual experiments from Classical Physics, Solid State Physics, Laser Physics, Condensed Matter Physics, Nuclear and Particle Physics.

### PHYS 686 Electronics (10 ECTS)

Introduction to, and elements of, electronic circuits, their physics and applications.

### PHYS 687 History of Physics (10 ECTS)

Antiquity. Ptolemy. The Middle Ages. Copernicus, Galileo, Kepler, Newton. Classical mechanics, waves, optics, electricity, magnetism, electromagnetism. The collapse of classical physics. Relativity. Quantum mechanics. Field theory and superstrings.

### PHYS 689 Project (10 ECTS)

Presentation of a contemporary research topic in physics.

### PHYS 690 Methodology of Science (10 ECTS)

A general introduction to the scientific method through an analysis of the arguments of logical positivists, as well as analysis of the scientific models proposed by Popper, Kuhn and Lakatos. The problem and role of induction in experimental and theoretical physics. The concept of confirmation and falsifiability of scientific theories. The problem of Duhem-Quine: the underdetermination of theory by observations and Einstein's physical insight on this matter. The scientific explanation. Scientific realism/antirealism. The nature and logical structure of scientific theories and scientific models, the relationship between theory and models. Theoretical assertions and experimental reports. The role of models in Physics as a means

of bridging the gap between theory and experiment. The difficulties in the unification of theories. The reduction of Thermodynamics to Statistical Mechanics.

## Research Interests of the Academic Staff

### • Constantia Alexandrou, Professor

Lattice QCD, Variational Methods in Field Theories, Many-Body Systems, Stochastic Techniques for Many-Fermion Systems.

### • George Archontis, Associate Professor

Statistical Mechanics of Biopolymers (Proteins and Nucleic Acids) in Solution: Determination of Equilibrium and Dynamical Properties by Atomic-Detail Simulations, Free-Energy Calculations, Structure and Thermodynamic Stability of Biomolecular Complexes, Implicit Solvent Models, Liquid State Theory.

### • Constantinos Christofides, Professor

Laser Photothermal Physics and Instruments, Material Sciences, Sensor Devices, Solar Cells and Solar Materials, Solar Energy Applications, Photothermal Applications in Archaeometry and Art.

### • Grigorios Itskos, Assistant Professor

Experimental Condensed Matter Physics, Material Physics, Optical and Magneto-Optical Spectroscopy of Semiconductors, Photophysics of Solution-Processed Semiconductors, Nanocrystal-Organic-Hybrid Photovoltaics, Energy-Charge-Spin Transfer in Semiconductors.

### • Konstantinos Mouloupoulos, Associate Professor

Theoretical Physics of Condensed Matter: Microscopic Theories of Strongly Correlated Systems (Superconductivity, Metal-Insulator Transitions), Electronic Properties in Exotic Potentials (Quasicrystals), Aharonov-Bohm Configurations and Quantum Hall Effect.

### • Andreas Othonos, Professor

Ultrafast Phenomena in Semiconductors, Optoelectronics and Nanotechnology, Semiconductor Devices, Laser Physics, Non-linear Phenomena, Physics of Quantum Information, Fiber Optics and Fiber Bragg Gratings.

### • Haralambos Panagopoulos, Professor

Quantum Field Theory, Theoretical Particle Physics, Physics of Strong Interactions, Computational Physics.

### • Photis Ptohos, Associate Professor

Experimental high energy physics in proton-antiproton and proton-proton colliders. Design, construction and calibration of particle detectors, data analysis with emphasis on heavy quark physics (top and bottom) and their connection to the physics of Higgs boson and exotic phenomena beyond the standard model predictions (Supersymmetry, extra dimensions, new dynamics).

### • Panos Razis, Professor

Experimental High Energy Physics, Electron-Positron and Proton-Proton Colliders, Particle Detectors, Data Acquisition, Calibration, Supersymmetry, Higgs, Rare Decays, Unification Theories, Cosmology, Medical Physics.

### • Spiros Skourtis, Associate Professor

Theory of Molecular Electron Transfer Reactions, Chemical and Biological Tunneling Phenomena, Theory of Reaction Rates in Condensed Phases, Protein Structure-Function Relationships, Protein Dynamics-Function Relationships, Molecular Electronics.

### • Stavros Theodorakis, Associate Professor

Theoretical Condensed Matter Physics (Bose-Einstein condensates, phenomenology of high temperature superconductors, phenomenology of superfluid helium). Nonlinear Physics.

### • Nicolaos Toumbas, Associate Professor

Theoretical high energy physics, M/Superstring theories of quantum gravity, black holes, gravity/gauge theory dualities and their holographic interpretation and non-commutative geometry. Applications of non-commutative geometry to condense matter systems with quantum disorder.

### • Theodosis Trypiniotis, Lecturer

Experimental condensed matter physics. Spintronics in semiconductor, metallic and nanomagnetic structures. Ultrafast dynamics in magnetic nanostructures. Molecular beam epitaxy (MBE). Nanoparticles for biochemical and energy applications.

### • Haralabos Tsertos, Professor

Modern Experimental Nuclear Physics with Heavy Ions at Relativistic Energies, Study of the Equation of State of Hot and Dense Nuclear Matter via High-Resolution Dilepton Spectroscopy, Particle Detectors and Monte Carlo Simulation Techniques, Experimental Quantum Electrodynamics (QED) of Very Strong Electromagnetic Fields: High-Resolution Spectroscopy of Positrons, Electrons and  $\text{\AA}$ -Rays in Superheavy Ion-Atom Collisions at Coulomb-Barrier Energies, Search for New-Particles and New Phenomena at Low Energies (1-2 MeV range), Environmental and Medical Applications of Nuclear Radiation.

## Contact Details

### Department Secretariat

Panagiota Georgiou

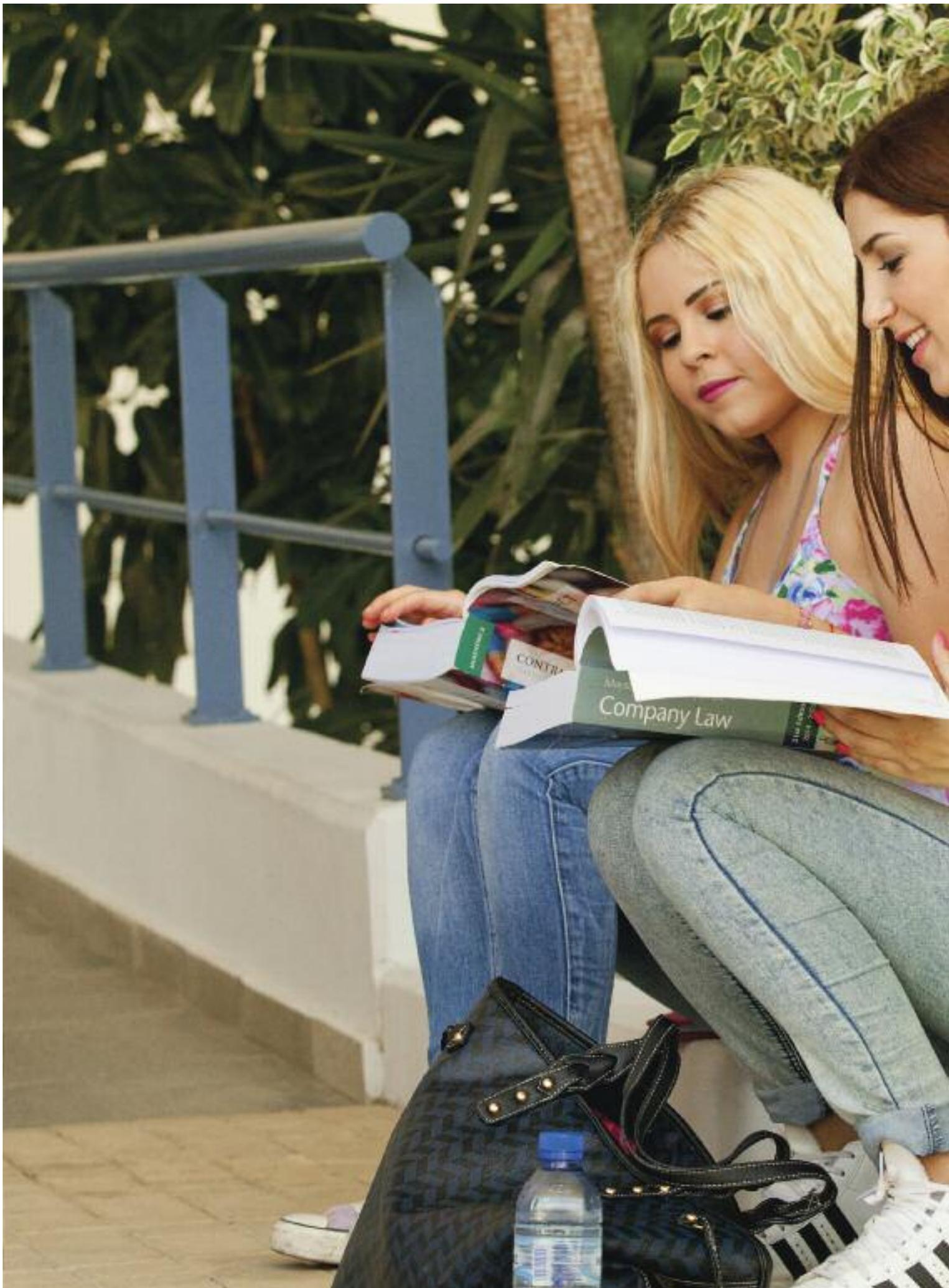
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[www.ucy.ac.cy/phy/en](http://www.ucy.ac.cy/phy/en)







# Faculty of Social Sciences and Education

## DEPARTMENTS

Education

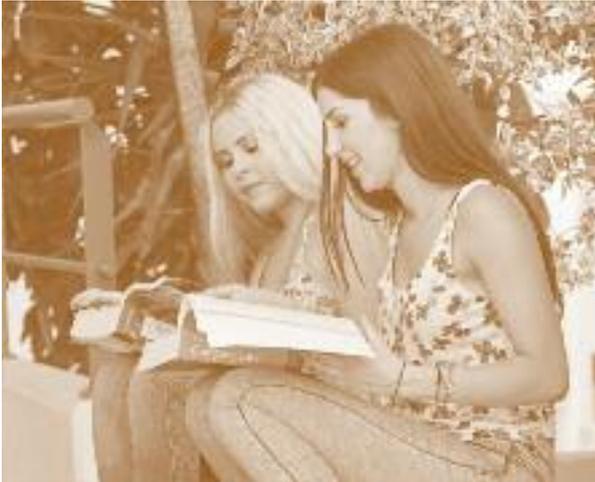
Law

Psychology

Social and Political Sciences

Postgraduate Prospectus 2017-2019

# Department of Education



The Department of Education currently offers ten postgraduate programmes leading to Master and Doctoral degrees in the following areas:

- Educational Administration and Evaluation (Master and Doctoral)
- Curriculum Studies and Comparative Education (Master and Doctoral)
- Pedagogical Sciences (Master and Doctoral)
- Mathematics Education (Master and Doctoral)
- Learning in Natural Sciences (Master and Doctoral)
- Didactics and Methodology of Mathematics (Master)  
(Joint degree programme of the University of Cyprus and the University of Athens)
- Special and Inclusive Education (Master and Doctoral)
- Language Pedagogy (Master)
- Language and Education (Doctoral)
- Inter-departmental and Inter-disciplinary Self-financed Programme in Gender Studies (Master and Doctoral)

## Postgraduate Programmes

It is expected that the gradual increase in faculty and administrative personnel will allow additional programmes to be offered, so that a broader spectrum of disciplines in education can be covered.

The programmes are supervised by the Coordinator of Postgraduate Programmes (CPP) of the Department who is always the Chairperson of the Department. The Coordinator chairs a three-member committee, the members of which are appointed by the Departmental Board.

The postgraduate programmes are based on ECTS (European Credit Transfer and Accumulation System).

## Completion of the Master Degree

All courses are credited with 12 ECTS. The programmes require 120 ECTS for their completion. Students may choose one of the following options:

### • Option A (completion of 9 courses)

9 Courses X 12 ECTS (108 ECTS) and 3 Seminars X 4 ECTS (12 ECTS) = 120 ECTS

### • Option B (completion of 7 courses, 3 seminars and dissertation)

7 Courses X 12 ECTS (84 ECTS), 3 Seminars X 4 ECTS (12 ECTS) and Dissertation (24 ECTS) = 120 ECTS

## Seminars

The three seminars include lectures which will focus on a specific topic of the discipline. Each seminar is credited with 4 ECTS.

## Requirements for the Ph.D. Degree

All postgraduate programmes in the department require students to successfully complete either 249 or 273 ECTS, distributed as follows:

	ECTS
5 Courses x 12 ECTS	60
Research Stages (8 stages x 15 ECTS)	120
Comprehensive Examination	33
Dissertation Ia, Ib x 15 ECTS	30
Dissertation IIa, II b x 15 ECTS	30
EDU 750 Submission of Research Proposal	0
<b>Total</b>	<b>273</b>

In cases where a candidate for the Ph.D. holds a Master's degree from any Department of the University of Cyprus or any recognized university, he/she is required to complete 3-5 courses (36-60 ECTS), following recommendation of the Academic Advisor responsible for the postgraduate studies of the programme. It is the student's responsibility to request credit transfer.

Students may also be examined by taking a comprehensive examination on three to five courses depending on the demands of each programme and always in accordance with the academic advisor of each programme.

*Note: All work beginning with Dissertation III and following receives 0 ECTS.*

### Application for Admission – Evaluation

For information on the application procedure and the evaluation of the candidates, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat (tel.: 22892940/41/42).

In addition to the general requirements, candidates are requested to submit any certificates and/or other documentation that prove English language competency, and any other documentation they consider necessary to strengthen and further support their application for admission, such as articles, research reports, academic distinctions.

### EDUCATIONAL ADMINISTRATION AND EVALUATION

The Postgraduate Programme in Educational Administration has as its basic mission the following:

- (1) to undertake research in the areas of organization, administration and evaluation in education
- (2) to prepare leadership personnel and researchers who understand the context within which educational organizations operate in a productive and creative way
- (3) to offer services to the wider educational community in the areas of administration, management, leadership, evaluation and school effectiveness.

The programme further aspires to create a landscape where all the various disciplines within the cognitive area of educational administration can flourish, such as personnel evaluation in education, school effectiveness, organizational behaviour, programme evaluation, economics of education and productivity and total quality management.

Based on the above, the primary objective of the Postgraduate Programme in Educational Administration is to create the foundations for more effective organization

and administration of schools. Most courses are directly related to the duties and responsibilities of both administrative personnel of the schools (elementary and secondary) and administrators at the Ministry of Education and Culture. At the same time, some of the courses introduce new ideas and current trends in the areas covered by the Programme. It is up to the students to acquire knowledge, new attitudes and research capabilities that will assist them in exercising a dynamic role as educational leaders and researchers of international reputation.

All of the above are applied through a series of courses, seminars and other academic activities that revolve around the Postgraduate Programme in Educational Administration.

### Structure of the Master Programme

The programme consists of 120 ECTS which are distributed as follows:

#### • Option A

84 ECTS in 7 Specialization Courses + 12 ECTS in 1 Common Core Course + 12 ECTS from the Elective Courses + 12 ECTS from 3 Seminars = TOTAL 120 ECTS

#### • Option B

72 ECTS in 6 Specialization Courses + 12 ECTS in 1 Common Core Courses + 24 ECTS for the Master's Thesis + 12 ECTS from 3 Seminars = TOTAL 120 ECTS

#### OPTION A

9 Courses X 12 ECTS and 3 Seminars X 4 ECTS = TOTAL 120 ECTS

	ECTS
<b>Specialization Courses</b>	<b>84</b>
<b>Compulsory Courses</b>	<b>48</b>
EDU 620 Introduction to Educational Administration	12
EDU 623 Observation and Evaluation of Teaching and Personnel	12
EDU 631 School Effectiveness and Social Improvement	12
EDU 645 Educational Policy	12
<b>Elective Courses</b>	<b>36</b>
Three of the following:	
EDU 603 Comparative Education	12
EDU 610 Evaluation of Educational Programmes	12
EDU 617 Educational Government and the Management of Change	12
EDU 621 Human Resource Development	12
EDU 622 Organization and Administration of Schools	12
EDU 624 Planning and Decision Making in Education	12

EDU 625 Applications of New Technology in Educational Administration	12
EDU 627 Introduction of Innovations in Education	12
EDU 628 Education and Multicultural Society	12
EDU 629 Instructional Leadership	12
EDU 630 Financial Aspects of Education	12
EDU 632 Strategic Planning and Quality in Education	12
EDU 634 Principles of Organization of In-service Programmes at the School Level	12
EDU 635 Organizational Behaviour and Leadership	12
EDU 636 Practicum in Educational Administration	12
EDU 642 Basic Principles of Measurement and Evaluation in Education	12
EDU 648 Job Satisfaction, Promotion and Compensation of Personnel in Education	12
EDU 649 Educational Leadership in Europe	12
EDU 689 Independent Study	12
EDU 690 Specialized Topics/Current Trends	12
EDU 695 Evaluation of Schools' Performance	12
EDU 696 Models of Educational Effectiveness	12
EDU 697 Designing Comprehensive Studies for Evaluating School Effectiveness	12
<b>Common Core Courses</b>	<b>12</b>
<b>Research</b>	
At least one of the following:	
EDU 681 Advanced Research Methods	12
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Packages Applications	12
EDU 780 Using Basic and Advanced Multilevel Modelling in Educational Research	12
EDU 788 Advanced Research Methods	12
<b>Elective Courses</b>	<b>12</b>
One postgraduate course from any programme or department upon permission of the student's postgraduate advisor	12
<b>Seminars</b>	<b>12</b>
EDU 731 Seminar in Educational Administration and Evaluation I	4
EDU 741 Seminar in Educational Administration and Evaluation II	4
EDU 761 Seminar in Educational Administration and Evaluation III	4
<b>Total</b>	<b>120</b>

### OPTION B

7 Courses X 12 ECTS (84 ECTS), 3 Seminars X 4 ECTS and Master's Thesis (24 ECTS) = TOTAL 120 ECTS

	ECTS
<b>Specialisation Courses</b>	<b>72</b>
<b>Compulsory Courses</b>	<b>48</b>
EDU 620 Introduction to Educational Administration	12
EDU 623 Observation and Evaluation of Teaching and Personnel	12
EDU 631 School Effectiveness and School Improvement	12
EDU 645 Educational Policy	12
<b>Elective Courses</b>	<b>24</b>
(Three courses from the following)	
EDU 603 Comparative Education	12
EDU 610 Evaluation of Educational Programmes	12
EDU 617 Educational Government and the Management of Change	12
EDU 621 Human Resource Development	12
EDU 622 Organization and Administration of Schools	12
EDU 624 Planning and Decision Making in Education	12
EDU 625 Applications of new Technology in Educational Administration	12
EDU 627 Introduction of Innovations in Education	12
EDU 628 Education and Multicultural Society	12
EDU 629 Instructional Leadership	12
EDU 630 Financial Aspects of Education	12
EDU 632 Strategic Planning and Quality in Education	12
EDU 634 Principles of Organization of In-service Programmes at the School Level	12
EDU 635 Organizational Behaviour and Leadership	12
EDU 636 Practicum in Educational Administration	12
EDU 642 Basic Principles of Measurement and Evaluation in Education	12
EDU 648 Job Satisfaction, Promotion and Compensation of Personnel in Education	12
EDU 649 Educational Leadership in Europe	12
EDU 689 Independent Study	12
EDU 690 Specialized Topics/Current Trends	12
EDU 695 Evaluation of Schools' Performance	12
EDU 696 Models of Educational Effectiveness	12
EDU 697 Designing Comprehensive Studies for Evaluating School Effectiveness	12

<b>Dissertation</b>	<b>24</b>
EDU 798D Master's Thesis I	12
EDU 799D Master's Thesis II	12
<b>Common Core Courses</b>	<b>12</b>
<b>Research</b>	
At least one of the following:	
EDU 681 Advanced Research Methods	12
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Packages Applications	12
EDU 780 Using Basic and Advanced Multilevel Modelling in Educational Research	12
EDU 788 Advanced Research Methods	12
<b>Seminars</b>	<b>12</b>
EDU 731 Seminar in Educational Administration and Evaluation I	4
EDU 741 Seminar in Educational Administration and Evaluation II	4
EDU 761 Seminar in Educational Administration and Evaluation III	4
<b>Total</b>	<b>120</b>

## Structure of the Ph.D. Programme

The following are required for the completion of the doctoral programme:

- Master Degree in the same or similar subject
- Success in courses totalling 36 or 60 ECTS
- Success in a comprehensive examination
- Completion of a doctoral dissertation

The 24 ECTS are fulfilled with courses required for the Master degree, following recommendation of the Postgraduate Programme Coordinator of the department.

In cases where the candidate holds a Master degree in a similar subject or a Master degree which is awarded by a recognised university, the Council of the Department can credit some or all the courses required for the Master's degree, following recommendation of the Academic Advisor responsible for the postgraduate studies of the programme.

## Comprehensive Examination

The main goal of the Comprehensive Examination is to evaluate the abilities of doctoral candidates to work in a holistic way on the basis of a theoretical context and offer solutions to real-world problems in Education. The Comprehensive Examination consists of four distinct parts. In each part we evaluate the ability of the candidate to

synthesize knowledge in order to offer solutions. To be successful, the student must pass all four parts.

For more information on the Comprehensive Examination, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

## General Topics for the Examination

### (1) Organizational and administrative theory

- Organization and administration theories
- Culture and climate in educational institutions
- Leadership theories
- Motivation theories
- Job characteristics and job-redesign models
- Group dynamics, group work and conflict in educational organizations
- Individual decision-making models
- Group decision-making models
- Obstacles in decision-making

### (2) Evaluation and effectiveness in education (personnel, programmes, schools)

- Personnel evaluation in educational institutions
- Programme evaluation in educational and other organizations
- Evaluation and school improvement
- School effectiveness (theory practice)

### (3) Planning and the management of change in organizations

- Strategic planning in educational institutions
- Management of change

### (4) Economic aspects of education

- Basic principles of economics of education
- Human capital theory
- Budgets and budgeting
- School choice

### (5) Educational policy

- Theoretical concepts and application

## Course Descriptions

All courses are credited with 12 ECTS.

### EDU 603 Comparative Education

Comparative Education (CE) as educational relationships. The core themes of CE include: system, transfer, space, time, state, context, culture, identity. Deconstructing entrenched ideas, such as CE compares countries and systems, looking for

similarities and differences. Globalization, internationalization, Europeanisation, democratisation, colonialism, neo-imperialism and their educational codings. The role of international development agencies (e.g., Unesco, World Bank, OECD) and non-governmental organizations in global and local education. The dialectic of the global and the local. European education policy and national translation. New trends in international education (school autonomy, parental choice, accountability, benchmarking, educational markets, and so on). The 'Finnish model', the Prussian and Soviet models: the promises and perils of comparison. The use and abuse of CE. The relationship of CE to education policy and reform. The importance of CE for a small state like Cyprus. Cyprus education as educational transfer.

#### **EDU 610 Evaluation of Educational Programmes**

The evaluation of educational programmes as an institution and as a process. Analysis of several evaluation models (Stufflebeam, Popham, Borich, Provus, Scriven, etc.), with reference to specific programmes at the macro-level (educational system) and the micro-level (school unit). Types of evaluation (continuous, developmental, formative, summative). Description of approaches and study of the instruments used in evaluation at both the theoretical and the applied levels, in the context of accountability of educational systems and educational institutions.

#### **EDU 617 Educational Government and the Management of Change**

Governance and distribution of power in education. Participation of stakeholders in school administration. The role of teachers, parents and the community. The nature of change in education. The process of designing and implementing change in education. Resistance to change and ways of managing it. The role of the leader in the management of change. Characteristics required for the effective management of change.

#### **EDU 620 Introduction to Educational Administration**

General introduction to concepts and theories necessary for the study of organizations. Topics included are: leadership, decision-making, organizational climate, communication, effectiveness and the management of change. The nature of organizational life and organizational behaviour are explored. The school as a social system is examined as well as the external and internal factors which affect the schools and the educational system in general.

#### **EDU 621 Human Resource Development**

The human factor and its importance for an organization. Ways and means for motivation of human resources. Inservice and employee development through job design. Human behaviour in groups. Communications, group dynamics, group effectiveness and group formation.

#### **EDU 622 Organization and Administration of Schools**

Analysis of basic duties and responsibilities of school principals. Description of methods for planning and decision-making at the school level. Effective schools research and the involvement of school principals in the formation of an effective school. Educational laws for the organization and administration of schools.

#### **EDU 623 Observation and Evaluation of Teaching and Personnel**

Presentation and analysis of the logic of observing, analysing and evaluating teaching and school personnel. Specific instruments, models, and methods for the observation and evaluation of teaching will be presented. Focused observation instruments will also be presented for specific areas of observation (such as school climate, teaching process, teaching methods and styles, academic progress of students).

#### **EDU 624 Planning and Decision Making in Education**

Basic functions of an educational leader: planning and decision-making. Educational planning at the macro and micro level. Basic techniques and process of planning. The preparation of one-, two- and three-year plans for the individual school. Decision-making models and processes, simulations in decision-making, impact of decisions on the organization.

#### **EDU 625 Applications of New Technology in Educational Administration**

Educational technology products which support the work of an educational leader. Technology products which are now available or are up and coming for the near future. Special reference will be made to computers and software available as well as methods for the evaluation of software.

#### **EDU 627 Introduction to Innovations in Education**

Analysis of the concept of educational change and the introduction of innovations in education. The study of the individual school as the main vehicle for the introduction of change and innovations. Theories of organizational change and resistance to change in educational organizations.

#### **EDU 628 Education and Multicultural Society**

Critical examination of current social issues and their relation to teaching. Race and ethnic relations, socio-economic groups, special interest groups, and advocacy. Conflict resolution among the various stakeholders in education.

#### **EDU 629 Instructional Leadership**

Theoretical perspectives on Instructional Leadership. The role of the school principal and other educational leaders in establishing and sustaining a culture of teaching and learning. The school as a learning community.

#### **EDU 630 Financial Aspects of Education**

Examination of ways to implement public financial management with regard to education. Taxes and taxation in education. Direct and indirect taxation in educational issues. Presentation of specific budgeting models such as PPBS, MBO, Zero-base budgeting, incremental budgeting.

#### **EDU 631 School Effectiveness and School Improvement**

The course focuses on two main units. The first unit examines the major findings of international research in the field of school effectiveness, and general effectiveness-enhancing factors are analysed. The following three disciplinary backgrounds to educational effectiveness modelling are discussed: a) the economic approach, focused on "education production functions", b) the educational psychological approach to effective instruction and learning conditions, and c) the generalist-educationalist approach to integrated,

multilevel school effectiveness modelling. Major issues of school effectiveness research such as the size, stability, consistency and scope of school effects are discussed. Theories on school, organizational, and instructional effectiveness are examined and implications for the development of school effectiveness research are drawn. The second unit is an attempt to draw on what is known about managing change and school effectiveness and to apply this knowledge to practical development activities in schools. Thus, the contribution of school effectiveness research to school improvement is examined and the strengths and weaknesses of both fields of educational research are identified. Special emphasis is given to the development of research projects attempting to use insights from effectiveness and improvement research to managing the process of ongoing development.

#### **EDU 632 Strategic Planning and Quality in Education**

Quality and accountability issues in education and their relationship to strategic planning. Why planning is important and the relation between planning and TQM in education.

#### **EDU 634 Principles of Organization of In-Service Programmes at the School Level**

The concept of total quality in the development of in-service programmes. The goal-setting and experiential process of the development of in-service programmes. Research around action and reflective thinking. Mentors and student teaching. Systems for the support of in-service personnel.

#### **EDU 635 Organizational Behaviour and Leadership**

Organizational behaviour and motivation theories. Leadership, trait-theory and social making approaches. Goals and work relations within groups. Evaluation of effectiveness and rewards. Communication, creation of good working relationships within the organization. Organizational climate and its importance. General survey of main theories in educational leadership such as: Trait, situational approaches with emphasis on the Hersey and Blanchard Life Cycle Theory, Blake and Mutton, Terry's Diamond, Transformational leadership, Fiedler, Tichy, Devanna. Examination of variables involved in situation approaches to leadership.

#### **EDU 636 Practicum in Educational Administration**

Observation of administrative personnel in educational institutions either on a part-time or full-time basis. Shadowing with special emphasis on organizational and administrative functions under real conditions.

#### **EDU 642 Fundamentals of Measurement and Assessment in Education**

Forms of validity and reliability; Methods for measuring construct validity; Classical Test Theory; Item Response Theory Models: One-parameter logistic model, Two-parameter logistic model, Three-parameter logistic model, Nominal response IRT model, Graded response IRT model; Ability and Item Parameter Estimation; Assessment of Model Data Fit; Methods for Identifying Biased Test Items: Item Bias Indices based on Classical Test Theory, IRT Methods for Detecting Differential Item Functioning; Test Score Equating; Computer-Based Adaptive Testing.

#### **EDU 645 Educational Policy**

A study of the concept of educational policy and the knowledge base for decision making in this area. Examination of the factors influencing policy decisions at the macro and micro level. Discussion of important topics associated with policy decisions in the international scene, such as: school success and failure, access to education, school effectiveness, vocational education, and marketization. Investigation of contemporary educational policy issues in Cyprus.

#### **EDU 648 Job Satisfaction, Promotion and Compensation of Personnel in Education**

Motivation and job satisfaction in education. Promotion plans and career ladders. The role of monetary and non-monetary rewards in motivating personnel. Motives, rewards and school effectiveness. Alternative compensation plans and merit pay. Factors influencing educational policy in relation to job satisfaction, compensation and promotion.

#### **EDU 649 Educational Leadership in Europe**

This course is for those who are in, or aspire to be in, leadership posts in pre-school, primary, secondary or tertiary educational organizations in Europe or for those from outside Europe who wish to gain an understanding of European approaches to the management and leadership of educational organizations. It will be of value to those who teach and lead in schools or colleges and to those who govern such organizations at the local, regional, national or international level or who work in non-governmental educational organizations. This is a self-study course. Each of its aspects offers information, discussion and activities to enable students to participate in a productive way. These aim to guide students through the principal learning points and to reinforce what students gain from the reading.

#### **EDU 681 Advanced Research Methods**

Joint distributions. Sources of misleading correlation coefficients. Correlations and causality. Linear regression. Prediction and interpretation of the components. Errors in prediction. Standard error of estimate. Interpretation of the standard error. Statistical inference in behavioural research. Multiple regression. Purpose and underlying logic. Interpretation of multiple regression findings.

#### **EDU 682 Qualitative Research in Education**

This course consists of four major parts. The first part examines the philosophical underpinnings of qualitative and quantitative research and compares their main ontological, epistemological, and methodological beliefs. It also looks at various theoretical traditions and orientations within qualitative research such as ethnography, phenomenology, case study, participatory action research, and critical theory. The second part focuses on issues related to the design of qualitative research, including the role of theory, the type of research questions that can be addressed by qualitative research, the use of conceptual maps, the "emergent design" approach, the role of the researcher in qualitative research, and purposive sampling; also discussed are issues such as negotiating access to the field, establishing rapport, obtaining informed consent, as well as ethical considerations. The third part of the course focuses on the major methods of data collection in qualitative research: in-depth interviewing, observations, and documentary analysis. Techniques for

analyzing qualitative data are then considered, with special emphasis on grounded theory and the “constant comparative method”; the application of software for analyzing qualitative data (e.g., Atlas.ti) is also presented and discussed. The last part of the course considers ways of presenting and justifying qualitative studies, as well as several criteria for judging the quality of such studies (e.g., credibility, transferability, confirmability, and authenticity).

#### **EDU 683 Educational Statistics with Applications of Statistical Packages**

This course consists of two major units. The first unit introduces students to the fundamental concepts and ideas in quantitative research, including the philosophical underpinnings of quantitative research (and their differences from those of qualitative research), the main stages involved in conducting and reporting a quantitative research study, and basic terms and concepts used in statistics. The second unit focuses on the use of the statistical package SPSS for analyzing quantitative data. This unit begins with basic commands for data manipulation (e.g., recode, compute), and then shifts to specific techniques for data analysis, including descriptive statistics, correlation analysis, inferential statistics (both parametric and non-parametric criteria), analysis of variance (one-way ANOVA, two-way ANOVA, MANOVA and repeated MANOVA), exploratory factor analysis, and simple and multiple regression analysis. Throughout this unit, students are given ample opportunities to determine the most appropriate technique to apply to various, specific research questions; to use these techniques to analyze actual data; to interpret the output yielded from these analyses; to draw valid inferences. The course is also designed to enable students to become critical consumers of research studies in which such techniques have been used to analyze quantitative data.

#### **EDU 689 Independent Study**

Students choose a topic of personal interest and prepare an extensive paper under the supervision of an Academic Staff member who specializes in the student’s area.

#### **EDU 690 Specialized Topics/Current Trends**

In this seminar, there will be presentations of current issues and trends in the broad area of Educational Leadership and Curriculum Development.

#### **EDU 695 Evaluation of Schools’ Performance**

External and internal forms of school evaluation; Political dimensions of school evaluation; School self-evaluation and school improvement; Value assumptions of School Self-evaluation; Methodology and Procedural dilemmas of school self-evaluation; Research into school self-evaluation; Integrating school self-evaluation with external forms of evaluation.

#### **EDU 696 Models of Educational Effectiveness**

Different approaches to educational effectiveness modelling; Education Production Function Models; The educational psychological approach to educational effectiveness modelling: Carroll’s and Walberg’s model; The Integrated Multilevel Educational Effectiveness models: Scheerens’ model, QUAIT/MACRO model, the comprehensive model of educational effectiveness; Research on models of educational effectiveness: Main findings and methodological issues; The

importance of establishing dynamic models of effectiveness; Using models of effectiveness for school improvement purposes.

#### **EDU 697 Designing Comprehensive Studies for Evaluating School Effectiveness**

The significance of establishing mechanisms for measuring educational effectiveness; Designs of educational effectiveness studies based on Mixed Research Methods; Multi-level approaches in designing educational effectiveness studies; Possibilities of developing comprehensive models of teacher and school effectiveness; Methodological issues associated with the validation of comprehensive models of teacher and school effectiveness through systematic longitudinal studies.

#### **EDU 780 Using Basic and Advanced Multilevel Modelling in Educational Research**

Multilevel theories, Multi-stage sampling and Multi-level models; The Random intercept model; The hierarchical linear models; Testing and model specification; Assumptions of the hierarchical linear models; Designing Multilevel studies; Crossed random coefficients; Multivariate multilevel models; Non-linear multilevel models; Binary response models; Multilevel logistic regression; Random slope multilevel logistic regression models; Multilevel Factor Analysis and Multilevel structural equation models.

#### **EDU 788 Advanced Research Methods**

Research design, Review of Regression Analysis, basic functions of Structural Equation Modelling, Review of Exploratory Factor Analysis, Confirmatory Factor Analysis (First-order CFA model, CFA models with Higher-Order factors), The Multitrait-Multimethod model, The Full Latent Variable model, Growth Modelling, Logistic Modelling, Multiple-Group Analyses (Testing for invariant factorial structure of a theoretical construct, Testing for invariant latent mean structure, Testing for Invariant Causal Structure), Item Response Theory, Rasch measurement models (The dichotomous Rasch Model, Partial Credit Model, Rating scale analysis), Multiple Group IRT theory.

### **Contact Details**

#### **Programme Coordinators**

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## CURRICULUM STUDIES AND COMPARATIVE EDUCATION

The objectives of the Postgraduate Programme in Curriculum Studies and Comparative Education are the following:

1. Research in curriculum planning, curriculum development and curriculum evaluation, instructional analysis and evaluation. The professional development of teachers, especially in relation to issues of curriculum and instruction.
2. Advance and develop curriculum and teaching theories, as well as the philosophical, sociological and epistemological principles and discourse related to curriculum studies.
3. Promote and develop collaboration with universities and research centres in Europe and internationally.
4. Advance study, knowledge and research in the areas of curriculum development and evaluation, teaching and teacher development.
5. Develop and empower leaders and researchers who will be internationally recognised. Ensure that teachers understand the importance of the educational context so that they can work creatively and efficiently in Cyprus, Europe and beyond.
6. Provide research and services beneficial to the broader educational community and society.

In the context of the above objectives, students will be given the freedom to develop their own programme of studies tailored to their particular needs and interests.

### Structure of the Master's Programme

The programme consists of 120 ECTS which are distributed as follows:

#### • Option A

7 Specialization Courses X 12 ECTS (84 ECTS) + 1 Common Core Course X 12 ECTS (12 ECTS) + 1 Free Elective Course X 12 ECTS (12 ECTS) + 3 Seminars X 4 ECTS (12 ECTS) = Total of 120 ECTS

With permission of the postgraduate advisor, students may replace one or two specialization courses, common core courses or free elective courses with courses in other postgraduate programmes of the University of Cyprus.

#### • Option B

6 Specialization Courses X 12 ECTS (72 ECTS) + 1 Common Core Course X 12 ECTS (12 ECTS) + Dissertation (24 ECTS) + 3 Seminars X 4 ECTS (12 ECTS) = Total of 120 ECTS

#### OPTION A

9 Courses X 12 ECTS + 3 Seminars X 4 ECTS = Total of 120 ECTS

	ECTS
<b>Specialization Courses</b>	<b>84</b>
<b>Compulsory Courses</b>	<b>36</b>
EDU 603 Comparative Education	12
EDU 640 Basic Principles and Processes of Curriculum Development	12
EDU 693 Advanced Methods of Teaching and Learning	12
<b>Elective Courses</b>	<b>48</b>
Four of the following:	
EDU 595 Lifelong Learning and Continuing Professional Development	12
EDU 596 Action Research and Professional Development	12
EDU 597 Educational Governance and Development	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 599 Gender Theories and the Politics of the Curriculum	12
EDU 605 Postmodernity and Education: Theory and Praxis	12
EDU 606 European Policy and Curriculum Development	12
EDU 607 Sociology of Curriculum	12
EDU 608 Professional Critical Discourses on Teacher Development	12
EDU 611 Curriculum Theory	12
EDU 612 Models of Curriculum Evaluation	12
EDU 614 Informal and Hidden Curriculum	12
EDU 615 Curriculum in Context	12
EDU 623 Observation and Evaluation of Teaching and Personnel	12
EDU 627 Introduction of Innovations in Education	12
EDU 631 School Effectiveness and School Improvement	12
EDU 634 Principles of Organization of in-service Programmes at School Level	12
EDU 642 Basic Principles of Measurement Evaluation in Education	12
EDU 643 Application of New Technologies in Curriculum Development	12
EDU 644 Development and Evaluation of Educational Texts and Materials	12
EDU 654 History of Education	12
EDU 689A Independent Study	12
EDU 699 Critical Pedagogy	12
EDU 690 Specialized Topics/Current Trends	12
EDU 699 Critical Pedagogy	12
<b>Common Core Courses</b>	<b>12</b>
<b>Research</b>	
One of the following:	
EDU 681 Advanced Research Methods	12
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Packages Applications	12

<b>Elective Courses</b>	<b>12</b>
(With permission of the postgraduate advisor)	
EDU 601 Philosophical Dimensions of Education	12
EDU 618 Sociological Dimensions of Education	12
PSY 610 Psychology in Education	7.5
One postgraduate course from the University of Cyprus	12
With permission of the postgraduate advisor, one specialization course, common core course or free elective course can be replaced with a course in other postgraduate programmes of the University of Cyprus.	
<i>Note: The students that will attend PSY 610 (7.5 ECTS) has to attend also the Seminar PSY 612 (4.5 ECTS).</i>	
<b>Seminars</b>	<b>12</b>
EDU 730 Seminar in Curriculum and Instruction I	4
EDU 740 Seminar in Curriculum and Instruction II	4
EDU 760 Seminar in Curriculum and Instruction III	4
<b>Total</b>	<b>120</b>

### OPTION B

7 Courses X 12 ECTS (84 ECTS) +3 Seminars X 4 ECTS (12 ECTS) + Dissertation (24 ECTS) = Total of 120 ECTS

	ECTS
<b>Specialization Courses</b>	<b>72</b>
<b>Compulsory Courses</b>	<b>36</b>
EDU 603 Comparative Education	12
EDU 640 Basic Principles and Processes of Curriculum Development	12
EDU 693 Advanced Methods of Teaching and Learning	12
<b>Elective Courses</b>	<b>36</b>
Three of the following:	
EDU 595 Lifelong Learning and Continual Professional Development	12
EDU 596 Action Research and Professional Development	12
EDU 597 Educational Governance and Development	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 599 Gender Theories and the Politics of the Curriculum	12
EDU 605 Postmodernity and Education: Theory and Praxis	12
EDU 606 European Policy and Curriculum Development	12
EDU 607 Sociology of Curriculum	12
EDU 608 Professional Critical Discourse on Teacher Development	12
EDU 611 Curriculum Theory	12
EDU 612 Models of Curriculum Evaluation	12
EDU 614 Hidden and Informal Curriculum	12
EDU 615 Curriculum in Context	12
EDU 623 Observation and Evaluation of Teaching and Personnel	12

EDU 627 Introduction of Innovations in Education	12
EDU 631 School Effectiveness and School Improvement	12
EDU 634 Principles of Organization In-service Programmes at the School Level	12
EDU 642 Basic Principles of Measurement Evaluation in Education	12
EDU 643 Application of New Technologies in Curriculum Development	12
EDU 644 Development and Evaluation of Educational Texts and Materials	12
EDU 654 History of Education	12
EDU 689A Independent Study	12
EDU 690 Specialized Topics/Current Trends (with the academic advisor's approval)	12
EDU 699 Critical Pedagogy	12
<b>Dissertation</b>	<b>24</b>
EDU 798C Dissertation I	12
EDU 799C Dissertation II	12

### Common Core Courses 12

#### Research

One of the following:

EDU 681 Advanced Research Methods	12
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Packages Applications	12

#### Seminars 12

EDU 730 Seminar in Curriculum and Instruction I	4
EDU 740 Seminar in Curriculum and Instruction II	4
EDU 760 Seminar in Curriculum and Instruction III	4
<b>Total</b>	<b>120</b>

## Structure of the Ph.D. Programme

For information on the structure of the Ph.D. programme, see relevant paragraph above.

### Comprehensive Examination

The comprehensive examination evaluates the ability of candidates to synthesize theories and assumptions in a theoretical framework, which enables them to work on problem solving situations and reflect creatively on curriculum issues under consideration.

For more information on the Comprehensive Examination, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

### General Topics for the Examination

#### (1) Principles and procedures of curriculum development: course design

- Models and paradigms of curriculum development

- Curriculum development at the macro-level
- Curriculum development at the micro-level
- Structure and sequence of the curriculum
- Hidden curriculum

### **(2) Curriculum theory**

- Critical discourse on curriculum aims and objectives, content, evaluation and assessment, methods of implementation, curricular material, teaching and learning
- Functionalism
- Foucaultian discourse
- Critical pedagogy
- Critical theories
- Curriculum development in context
- Social discourse and controlling curricular forms
- Philosophical and psychological foundations of the curriculum
- Postcolonial theory and the curriculum
- Gender theories and Curriculum studies

### **(3) Learning and instruction: curriculum as praxis**

- Constructivism, modern and postmodern
- Teaching and learning as student and teacher conceptual change
- Textbooks: writing and evaluation
- Metacognitive development
- Cooperative learning
- Differentiation of teaching and learning in mixed ability classrooms
- Teachers and students as biographies
- Methods of teaching and learning in context
- Assessment and evaluation
- Critical discourse on “effective teaching”

### **(4) Teachers and curriculum studies**

- Curriculum leadership
- Teacher development in the context of critical pedagogy
- Models and paradigms of teacher development: the instrumental–technical model vs. the critical – developmental paradigms
- Teacher development in context
- Action Research and teacher development

- Teacher development in the context of phenomenography, conceptual change, and postmodernity
- Teachers’ theories and beliefs

### **(5) Educational policy and curriculum development**

- Theories of educational change and consensus
- Reforms in education
- National standards and curriculum development
- National and multicultural programmes and curricula
- European educational policy
- Accountability in education

## **Course Descriptions**

All courses are credited with 12 ECTS.

### **EDU 595 Lifelong Learning and Continuing Professional Development**

The main theories, trends and issues in adult education and lifelong learning, as well as those related to general education, primary and secondary education, training and socialization, are considered in a historical perspective and link pedagogy to the future of continuing education at the workplace. The course examines the binaries of theoretical/academic knowledge vs practical/experiential knowledge as well as explicit vs tacit knowledge. The meaning, aim, and processes of formal, informal and non-formal types of education are examined in relation to the concept of flexible employment, and considered as alternative types of continuing professional development. The Vocational Education and Training Systems—as instruments in the labour market — are discussed in terms of the epistemological, teleological, and techno-rational paradigms of knowledge acquisition. The course will examine and discuss official documents and reports on Lifelong Learning and Continuing Professional Development written under the auspices of the European Committee, the Council of Europe, the OECD and various other organizations, with the aim of promoting greater investment in education. We discuss this in the context of modern, postmodern, and critical approaches.

### **EDU 596 Action Research and Professional Development**

Action Research aims to adapt professional development to the learners’ needs. This can be accomplished through the learners’ participation in a process of reflective learning, which takes place on site in the work environment. Research on professional development through action research (e.g., Reason & Bradbury, 2001) indicates that participant attitudes and actions that were formerly characterized as remote and distant change to reflect more collaboration, participation, openness and exchange. Participants’ trust in their own choices grew and they became more self-confident, and interested in cooperative learning and alternative actions. The action research paradigm lies at the centre of the meta-modern perspective of education and bases its epistemological foundation on the learners’ interest; thus we see that it opposes instrumental, positivistic knowledge. The shift from positivistic,

algorithmic approaches to professional development by 'experts'; to a heuristic, cyclic, collaborative endeavor of all participants indicates the shift from imposed knowledge and pre-packaged programs and materials to movements that aim to personalize schooling, the work culture and learning processes by empowering personnel to participate in these processes.

#### **EDU 597 Educational Governance and Development**

In recent decades, the educational world has changed.. Many new actors – global, regional, national and subnational – that are involved in the governance of education have emerged or are emerging. These include: regional blocks such as, the EU, Mercosur, NAFTA, ASEAN; international governmental organizations (IGOs) such as the World Bank, OECD, UNDP, the Council of Europe, and UNESCO; non-governmental organizations (NGOs); and private, for- and non-profit agencies and institutions such as business corporations, consultancy firms, professional communities of practice and individual scientific experts. Old and new actors conceptualise and promote growth and development across the world, more often than not in the same direction – thus, while some define and are involved in actualizing the 'world-class university', others advocate the 'effective school', the 'professional teacher', and the 'lifelong learner'. This course explores the overall shape and particular features and characteristics of the new landscape of educational governance, seeking to identify and map out what, how and where new imaginings of development are articulated, as well as the ways in which these are diffused in different parts of the world.

#### **EDU 598 Postcolonial Theory and the Curriculum**

Post-Colonialism or Postcolonialism? Introduction to the 'postcolonial' as an ambivalent concept (the critique of colonialism and cultural hegemony implicates the risk of periodizing colonialism and reifying the critique of cultural hegemony). Histories of curriculum development are revisited from two perspectives: the historicism which projected Europe as the subject of History and Orientalism as an exemplary model of othering and discursive intertwining of knowledge and power. The productive-positive function of power is investigated in regard to colonial education and the interpellation of colonial subjects. The historical overlappings of theories of race, evolutionism, civilizing missions and education are analyzed, and the infiltration of the curricula by such theories is exposed, both in regard to the colonies and the metropolis. Possible foci of inquiry: the colonial genealogy of the literary canon; indigenization of the native 'other'; curricula in the service of the civilizing mission; anti-colonial struggles and the war over the curriculum; the emergence and claims of national curricula. Resistance in the postcolonial condition: 'the Empire writes back', Diaspora vs. nativism, hybridity vs. authenticity of voice, in-betweenness vs. locality.

#### **EDU 599 Gender Theories and the Politics of the Curriculum**

Review of theories of gender. Critical genealogies of theories of gender and the gendering of the curriculum. Theories of gender in a historical context and their intertwining with other dominant discourses such as nationalism, evolutionism and the civilizing potential of education. Gender norms: the normalization of sexual identities (femininities and masculinities), the nature of learning and the construction of knowledge. The reception of gender theories by curriculum theory (epistemologies, theories of learning, teacher and

student identities) and their impact on the gendering of learning material, policies of exclusion, teacher education, gender relations. Introduction to feminist epistemologies, gender sensitive curricula, curriculum reforms and the politics of difference and equity.

#### **EDU 601 Philosophical Dimensions in Education**

The relationship between philosophy and education is analyzed in-depth. The educational significance of concepts relating to rationality, language, morality and subjectivity in cultures is discussed. Specifically, the following are analyzed: the binary oppositions which define various evaluations of knowledge and its acquisition, the prototypes reproduced by educational systems, and the renewal of cultural and interpretive material such as theory and practice, public and individual domain, autonomy and heteronomy, truth and falsehood.

The fundamental topics for discussion include the definition of philosophy, its relationship to education, the analysis of the meta-theoretical justification of the pedagogical act and the diverse interpretations which dictate specific educational positions. The aim is to achieve a critical assessment of the production and transmission of knowledge in the context of existing teaching practices.

#### **EDU 603 Comparative Education**

Comparative Education (CE) as educational relationships. The core themes of CE include: system, transfer, space, time, state, context, culture, identity. Deconstructing entrenched ideas, such as CE compares countries and systems, looking for similarities and differences. Globalization, internationalization, Europeanisation, democratisation, colonialism, neo-imperialism and their educational codings. The role of international development agencies (e.g., Unesco, World Bank, OECD) and non-governmental organizations in global and local education. The dialectic of the global and the local. European education policy and national translation. New trends in international education (school autonomy, parental choice, accountability, benchmarking, educational markets, and so on). The 'Finnish model', the Prussian and Soviet models: the promises and perils of comparison. The use and abuse of CE. The relationship of CE to education policy and reform. The importance of CE for a small state like Cyprus. Cyprus education as educational transfer.

#### **EDU 605 Postmodernity and Education: Theory and Praxis**

Modern and postmodern theories in education. Emphasis on functionalism, deconstructive approaches, Foucaultian discourse, critical pedagogy and their impact on the concept, the construction, and the role of the curriculum. The postmodern perspective on curriculum discourse.

#### **EDU 606 European Policy and Curriculum Development**

Curriculum as a social, political and ideological document. The rationale and procedures of educational reforms according to the rational-technocratic and the critical-phenomenological paradigms. National standards, accountability and effectiveness of the educational system. National, globalised and multicultural policy. Teacher evaluation and development through teacher research. European educational policy and its impact on current educational issues in Cyprus.

### **EDU 607 The Sociology of Curriculum**

Critical approach to social theories on the construction and the results of school curriculum as product and as praxis. The “terminology” and “content” of curriculum discourse from the perspective of social theories. The curriculum as a technology of social engineering and as a governance mechanism. The history of curricula in primary and secondary school education. The formation and establishment of school subjects or curriculum areas: issues of re-contextualisation of forms of knowledge in school. Curriculum isomorphism: global and local trends in curriculum formation. The hidden curriculum and its role. Teacher control through various curriculum forms. Issues of professionalisation and de-professionalisation of teachers via curriculum reform and change. Teachers as curriculum reformers-makers rather than executors of curriculum.

### **EDU 608 Professional Critical Discourses on Teacher Development**

Critical discourse on teacher development. Theories, methods and processes for teacher development. Teacher beliefs, cultural models and implicit knowledge. Critical teacher development in the postmodern age. Research on teacher development in context. Action Research and reflective teachers.

### **EDU 611 Curriculum Theory**

Theoretical questions and conceptual-analytical tools in the field of Curriculum Studies. Multiple meanings of curriculum: translation and interpretation issues in Greek. Definitions, representations, conceptualizations and metaphors in the study of curriculum. Curriculum, bildung and didaktik: the influence of Anglo Saxon and European (especially German) approaches on the literature and research in Greek. Issues of re-contextualisation in the case of Cyprus. Techno-rational, progressive, academic and reformist approaches and eclecticism. Historical development and social, political, epistemological and psychological aspects in the study of curriculum. Anthropological approaches to childhood and adolescence and implications for schooling and curriculum as official text. Forms of curricula according to modern and postmodern paradigms. Improvement and understanding in the study of curriculum: the re-conceptualisation, internationalization and post-reconceptualisation of the field of Curriculum Studies.

### **EDU 612 Models of Curriculum Evaluation**

The evaluative aspect of evaluation. The concept of value and evaluation criteria. Contextualisation and internationalisation of evaluation and assessment: comparison as a curriculum evaluation mechanism. Curriculum evaluation paradigms: technical/functional, naturalistic/transactional, critical/emancipatory. Targets of evaluation: product, process, politics, personnel, aims, impact or results, needs, programme theory. Types of curriculum evaluation: proactive, clarificative, interactive, monitoring, impact-accountability. Curriculum evaluation models such as: Connoisseurship-Eisner, Goals oriented- Tyler, Goals-Free Evaluation- Scriven, Judicial/Adversary, Kirkpatrick’s model, Situated evaluation, CIPP model (Context, Input, Processes, Products). Data collection instruments: questionnaires, interviews, document analysis, etc. Authoring evaluation reports, dissemination of findings and their utilization for curriculum design and development. Meta-evaluation.

### **EDU 614 Hidden and Informal Curriculum**

Research on the role of mass media in the production of the informal curriculum; the hidden value of the informal curriculum; the relationship between formal and informal curricula; theories of information processing through mass media and the resistance of the person; contemporary trends and issues on the control of mass media.

### **EDU 615 Curriculum in Context**

The socially situated and contingent nature of curriculum. Curriculum as intent, as content, as product, as process, as praxis. Who writes a curriculum? Voices, struggle, and hegemony: whose and what knowledge is the most significant? Knowledge for whom? The nature, purpose and functions of curriculum in society. Curriculum as relationships with school, community and state; with local and global civil society; with European governing bodies and structures; and with organizations and institutions of global governance. Curriculum and social space: curriculum as intersection between the local, the national, the inter-national, the transcultural, and the global. Traces and effects of patterns and forms of inter-textuality and inter-discourse. Curriculum as hybridity; as ambivalence and ambiguity; as oscillation, border-crossing and indeterminacies. Curriculum as oscillation between past, present and future; between science, ideology and the arts; between reality, imagination and desire. Confusion and contradictions in curriculum. Case studies of official and other curricula as cultural, political, ideological, historical texts and as socio-cultural artefacts. Curricula, syllabi, policy, textbooks, school rituals and their study in context. Deconstructing hidden curricula and the para-curriculum. Curricula and identity. Methodological and epistemological issues in curriculum research.

### **EDU 618 Sociological Dimensions of Education**

The course examines classic issues in the sociology of education through the lens of structural and micro perspectives as well as through the lens of critical theory. Analysis of the socio-political and cultural role of schooling through issues such as social inequality, school failure, alienation, culture and taste, ideology and knowledge. Critical juxtaposition of theory and research, analysis of educational problems through the reality of everyday school life and the practices of social groups.

### **EDU 627 Introduction to Innovations in Education**

See course description in previous pages.

### **EDU 631 School Effectiveness and School Improvement**

See course description in previous pages.

### **EDU 634 Principles of Organization of In-Service Programmes at the School Level**

See course description in previous pages.

### **EDU 640 Basic Principles and Processes of Curriculum Development**

The curriculum as product and praxis. The concept of curriculum development at the micro and macro level. Intervention programmes in education. Models for curriculum development. Parameters and factors affecting curriculum programmes.

**EDU 642 Fundamentals of Measurement and Assessment in Education**

See course description in previous pages.

**EDU 654 History of Education**

What is history? Education in Europe since the Enlightenment and the rise of the nation-state. The invention of the grammar of modern schooling. Education, nation-building and national identity formation; education and industrialisation; education and national culture; education, state formation and patriotic citizenship. The welfare state and the democratisation of education after World War II. Post-industrial and post-modern patterns of education: education for global economic competitiveness and global citizenship; European citizenship, multiculturalism and interculturality in education. The neoliberal state. Education in Greece after the establishment of the nation-state. Irredentism and the Great Idea in education. Church, orthodoxy and education. Reform and counter-reform in Greek education. Education in early colonial Cyprus (1878-1909). Education and colonialism. Ideology and the founding of the first public gymnasium (1893). The hidden curriculum of Greek-Cypriot schools (1900-1931). Enosis and education. British education policy and the conflict of identity (1931-1949). School history as conflict. Education in the first post-independent years (1959-1974). The education reforms of Sophianos (1976-1980). Education reform in the period 2004-2010. Education and ethnic conflict. Cyprus education as educational transfer. Cyprus curriculum today: historical reflections.

**EDU 681 Advanced Research Methods**

See course description in previous pages.

**EDU 682 Qualitative Research in Education**

See course description in previous pages.

**EDU 683 Educational Statistics with Statistical Packages Applications (SPSS)**

See course description in previous pages.

**EDU 689 Independent Study**

Students choose a topic of personal interest (related to the field of Curriculum Studies and Comparative Education) and undertake extensive research under the supervision of an Academic Staff member who specializes in the student's area. Students must submit a paper based on this research.

**EDU 690 Specialized Topics/Current Trends**

In this seminar, there will be presentations of current issues and trends in the broad area of Curriculum Development.

**EDU 693 Advanced Methods of Teaching and Learning**

Constructivisms, modern and postmodern. Learners as information processors. Theories of conceptual change. Sociocultural theories on teaching and learning. Methods of teaching and metacognitive development. Forms of learning and metacognition. Cooperative learning, individualized instruction and differentiation of teaching and learning.

**EDU 699 Critical Pedagogy**

Aspects of conflict in the societal and educational setting; interpretation according to the traditional, the human relations

and the interactionist view; the debate on functional and dysfunctional conflicts; conflicts based on values and interests; methods of conflict resolution, cooperation and collaboration.

For those courses without a complete description, please refer to the other graduate programmes of the department.

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**MASTER DEGREE IN PEDAGOGICAL SCIENCES****Aim of the Programme**

This postgraduate programme offers education specialists and professionals involved in education the opportunity to undertake specialized studies in the pedagogical sciences. Those who complete the programme to earn a master degree are well-placed in the field of education to pursue a variety of careers; alternatively, they may continue their studies to doctoral degree level and pursue an academic or research-oriented career.

**Structure of the Master's Programme**

Successful completion of 120 ECTS is required. More specifically, this entails 9 courses x 12 ECTS (108 ECTS) and 3 seminars x 4 ECTS. Students choose one of seven areas in which to concentrate and must take four courses in that area. The programme structure is as follows:

- One Course in Educational Research (12 ECTS)
- Three Common Core Courses (36 ECTS)
- Four Courses from one of the following areas: Religious Education; Sociology of Education; Preschool Education; Theory and Philosophy of Education; Physical Education; Cultural Dimensions of Education; Educational Technology (48 ECTS)
- One Elective Course from the Postgraduate Programme of the Department (12 ECTS)
- Three Seminars (12 ECTS)

*Note: Students who choose to write a Dissertation (24 ECTS) may be exempted from one core course and one elective course.*

	ECTS
<b>Common Core Courses</b>	<b>36 or 31.5</b>
Students must complete three (3) courses (36 ECTS or 31.5 ECTS in case where students choose the course PSY 610 or other course from the department of Education) from the following:	
EDU 521 First Language Acquisition	12
EDU 522 Contemporary Approaches to Literacy Development	12
EDU 524 Text Linguistics-Multiliteracies	12
EDU 529 Monolingual, Bilingual, Multilingual Education: Attitudes, Trends and Perspectives	12
EDU 530 Theological Dimensions of Education	12
EDU 531 Religions in the Area of Globalisation	12
EDU 532 Issues of Ethics	12
EDU 533 Education for Life. Lifelong Education	12
EDU 534 Religious Education in School	12
EDU 535 Methodology of Religious Education in School	12
EDU 536 Religions and Gender	12
EDU 542 Special and Inclusive Education (EDU 542 is a prerequisite for EDU 639)	12
EDU 545 Disability in School and Society	12
EDU 548 Current Trends in Inclusive Education	12
EDU 549 Disability Studies in Education	12
EDU 550 Education and Social Exclusion	12
EDU 555 Postmodern Philosophers, Alterity and Education	12
EDU 556 Advanced Seminar in the Theory and Philosophy of Education	12
EDU 560 Contemporary Principles in Early Childhood Education	12
EDU 561 The Diverse Perspectives of Play	12
EDU 562 Mathematical Thinking in the Early Years: Theoretical and Empirical Approaches	12
EDU 563 Supporting Creativity in Early Childhood Education	12
EDU 564 Ways of Studying and Observing Young Children's Development and Learning	12
EDU 565 The Semiotic Approach to Learning and Teaching Mathematics in Early Childhood	12
EDU 570 Research and Theory of Sports Pedagogy	12
EDU 571 Instructional and Curriculum Models in Physical Education	12
EDU 572 Current Issues in Sports Pedagogy	12
EDU 573 Curriculum Development in Physical Education	12
EDU 574 Analysis of Teaching in Physical Education	12
EDU 580 Theoretical Foundations of Instructional Technology: Problems and Prospects	12
EDU 581 Research Methodology in Instructional Technology: Conclusions and Applications	12

EDU 582 Preparation of Research Proposals in Instructional Technology	12
EDU 583 Design and Development of Interactive Learning Environment	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 601 Philosophical Dimensions of Education (S, I)	12
EDU 608 Critical Discourses on Teacher Development	12
EDU 611 Curriculum Theory	12
EDU 618 Sociological Aspects of Education	12
EDU 620 Introduction to Educational Administration	12
EDU 623 Observation and Evaluation of Teachers and Personnel	12
EDU 631 School Effectiveness and School Improvement	12
EDU 637 The Theory and Politics of Multicultural Education	12
EDU 639 Inclusive Education: The New Face of Special Education?	12
EDU 640 Basic Principles and Processes of Curriculum Development	12
EDU 641 Education and Gender	12
EDU 642 Fundamentals of Measurement and Assessment in Education	12
EDU 643 Application of new Technology in Curriculum Development	12
EDU 644 Development and Evaluation of Educational Texts and Materials	12
EDU 645 Educational Policy	12
EDU 646 Globalization, Cosmopolitanism and Education	12
EDU 651 The Development of Theories in Natural Sciences: The Natural Sciences	12
EDU 652 The Process of Inquiry in Natural Sciences	12
EDU 653 Cognitive Constraints in Learning Natural Sciences: Diagnosis and Teaching Interventions	12
EDU 660 Design, Development and Evaluation of Curricula	12
EDU 662 The Role of Information of Communication Technology in Promoting Learning in Natural Sciences	12
EDU 664 Integrated Curricula in Natural Sciences	12
EDU 673 Mathematics Curriculum: Development and Instruction	12
EDU 676 Contemporary Technology in Mathematics Teaching	12
EDU 677 Theories of Representation and Educational Teaching	12
EDU 678 Affects and Mathematics Learning	12
EDU 680 Theories of Mathematical Understanding	12
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Package Applications	12
EDU 684 Ethnographic Approaches in Educational Research	12
EDU 694 Seminar in Programme Evaluation	12
PSY 610 Psychological Aspects of Education	7.5
Any other courses from the postgraduate programme of the Department of Education	

*Note: Students who choose the course PSY 610 (7.5 ECTS) must complete the Seminar PSY 612 (4.5 ECTS) in order to fulfill the requisite number of credits for the degree.*

### **Area Courses (4 courses X 12 ECTS) 48**

Students must complete four courses from one of the following areas: Religious Education; Sociology of Education; Preschool Education; Theory and Philosophy of Education; Physical Education; Cultural Dimensions of Education; Educational Technology.

#### **Religious Education**

EDU 530 Theological Dimensions of Education	12
EDU 531 Religions in the Area of Globalisation	12
EDU 532 Issues of Ethics	12
EDU 533 Education for life. Lifelong Education	12
EDU 534 Religious Education in School	12
EDU 535 Methodology of Religious Education in School	12
EDU 536 Religions and Gender	12
EDU 647 Christian Humanocentrism and the Contemporary World	12

#### **Sociology of Education**

EDU 550 Education and Social Exclusion	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 601 Philosophical Dimensions of Education	12
EDU 603 Comparative Education	12
EDU 607 Sociology of Curriculum	12
EDU 618 Sociological Aspects of Education	12
EDU 637 The Theory and Politics of Multicultural Education	12
EDU 641 Education and Gender	12
EDU 646 Globalization, Cosmopolitanism and Education	12

#### **Preschool Education**

EDU 560 Contemporary Principles in Early Childhood Education	12
EDU 561 The Diverse Perspectives of Play	12
EDU 562 Mathematical Thinking in the Early Years: Theoretical and Empirical Approaches	12
EDU 563 Supporting Creativity in Early Childhood Education	12
EDU 564 Ways of Studying and Observing Young Children's Development and Learning	12
EDU 565 The Semiotic Approach to Learning and Teaching Mathematics in Early Childhood	12
EDU 566 Social Dimensions of the Child's Development	12
EDU 567 Developing Research Proposals in the Field of Early Childhood Educator	12

#### **Theory and Philosophy of Education**

EDU 555 Postmodern Philosophers, Alterity and Education	12
EDU 556 Advanced Seminar in the Theory and Philosophy of Education	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 601 Philosophical Dimensions of Education	12
EDU 611 Curriculum Theory	12
EDU 646 Globalisation, Cosmopolitanism and Education	12

#### **Sports Pedagogy**

EDU 570 Research and Theory of Sports Pedagogy	12
EDU 571 Instructional and Curriculum Models in Physical Education	12
EDU 572 Current Issues in Sports Pedagogy	12
EDU 573 Curriculum Development in Physical Education	12
EDU 574 Analysis of Teaching in Physical Education	12
EDU 623 Observation and Evaluation of Teachers and Personnel	12
EDU 631 School Effectiveness and School Improvement	12
EDU 695 Evaluation of Schools' Performance	12

#### **Cultural Dimensions of Education**

EDU 555 Postmodern Philosophers, Alterity and Education	12
EDU 556 Advanced Seminar in the Theory and Philosophy of Education	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 599 Gender Theories and the Politics of the Curriculum	12
EDU 637 The Theory and Politics of Multicultural Education	12
EDU 641 Education and Gender	12
EDU 646 Globalization, Cosmopolitanism and Education	12
EDU 647 Christian Humanocentrism and the Contemporary World	12

One course from the Postgraduate Programme "Language Pedagogy" (with the programme coordinator's approval) 12

#### **Educational Technology**

EDU 580 Theoretical Foundations of Instructional Technology: Problems and Prospects	12
EDU 581 Research Methodology in Instructional Technology: Conclusions and Applications	12
EDU 582 Preparation of Research Proposals in Instructional Technology	12
EDU 583 Design and Development of Interactive Learning Environment	12
EDU 612 Models of Curriculum Evaluation	12
EDU 640 Basic Principles and Processes of Curriculum Development	12
EDU 643 Application of New Technology in Curriculum Development	12
EDU 662 The Role of Information and Communication Technology in Promoting Learning in Natural Sciences	12
EDU 676 Contemporary Technology in Mathematics Teaching	12
EDU 693 Advanced Methods of Teaching and Learning	12

#### **Educational Research (1 Course x 12 ECTS) 12**

Students must complete one of the following courses:	
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Package Applications	12
EDU 684 Ethnographic Approaches in Educational Research	12

**Seminars (3 Seminars x 4 ECTS) 12**

Students who choose [Option A or B] must complete three seminars offered in the selected area/areas and must secure permission from their postgraduate advisor.

EDU 734 CE Seminar in Pedagogical Sciences I (Christian Education)	4
EDU 734 SE Seminar in Pedagogical Sciences I (Sociology of Education)	4
EDU 734 PE Seminar in Pedagogical Sciences I (Preschool Education)	4
EDU 734 TP Seminar in Pedagogical Sciences I (Theory and Philosophy of Education)	4
EDU 734 SP Seminar in Pedagogical Sciences I (Sports Pedagogy)	4
EDU 734 ET Seminar in Pedagogical Sciences I (Educational Technology)	4
EDU 735 Seminar in Cultural Dimensions of Education I	4
EDU 744 CE Seminar in Pedagogical Sciences II (Christian Education)	4
EDU 744 SE Seminar in Pedagogical Sciences II (Sociology of Education)	4
EDU 744 PE Seminar in Pedagogical Sciences II (Preschool Education)	4
EDU 744 TP Seminar in Pedagogical Sciences II (Theory and Philosophy of Education)	4
EDU 744 SP Seminar in Pedagogical Sciences II (Sports Pedagogy)	4
EDU 744 ET Seminar in Pedagogical Sciences II (Educational Technology)	4
EDU 745 Seminar in Cultural Dimensions of Education II	4
EDU 764 CE Seminar in Pedagogical Sciences III (Christian Education)	4
EDU 764 SE Seminar in Pedagogical Sciences III (Sociology of Education)	4
EDU 764 PE Seminar in Pedagogical Sciences III (Preschool Education)	4
EDU 764 TP Seminar in Pedagogical Sciences III (Theory and Philosophy of Education)	4
EDU 764 SP Seminar in Pedagogical Sciences III (Sports Pedagogy)	4
EDU 764 ET Seminar in Pedagogical Sciences III (Educational Technology)	4
EDU 765 Seminar in Cultural Dimensions of Education III	4

**Course Descriptions**

All courses are credited with 12 ECTS.

**EDU 530 Theological Dimensions of Education**

The theological dimensions of education and paideia. Ontologies and education. Several theories regarding the goal, content, methodology and valuation of education.

**EDU 531 Religions in the Era of Globalisation**

Religions in the history of humankind. The ontologies of several religions. The great religions and religious phenomena today.

**EDU 532 Issues of Ethics**

Ontologies and Ethics. Ethics in modernism and postmodernism. The great issues in Ethics.

**EDU 533 Education for Life. Lifelong Education**

Education for life – a lifelong education. Several key factors in education today. Basic issues in education for life.

**EDU 534 Religious Education in School**

History, goal, content, methodology, etc., of Religious Education in school. The role of religious education in Cypriot, European and the global educational system today.

**EDU 535 Methodology of Religious Education in School**

The theological, philosophical, psychological, sociological and historical dimensions of Religious Education in school. Goals, curricula, textbooks, etc., of Religious Education in School.

**EDU 536 Religions and Gender**

The sacred and gender. Religious matriarchy. Religious patriarchy. Gender in the great global religions. The Orthodox Church and gender. Western Christianity and gender. Religious presentations of gender in a secular society.

**EDU 549 Disability Studies in Education**

The course presents and critically analyses important ideas in Disability Studies in Education, a field that aims to combine ideas developed in Disability Studies and Inclusive Education. Students are encouraged to discuss factors influencing the construction of the concept of disability (political, social, cultural and historical), the medical and social model of disability, the personal experience of disability and its applications in policy making, and the cultural, historical and linguistic aspects of disability rhetoric. Both classic and contemporary writings of Disability theorists are analyzed and their basic ideas are discussed alongside fundamental ideas of inclusive education, such as the deconstruction of the concept of disability, the dismantling of the specialists' perceived power, the re-conceptualisation of the curriculum, the school and the educational system.

**EDU 550 Education and Social Exclusion**

Through a review of current literature, this course examines the role of the educational system in producing current forms of social exclusion. The course analyzes the structural, systemic and psychological dimensions of social exclusion and examines how schools are agents both in reproducing and overcoming social exclusion.

**EDU 555 Postmodern Philosophers, Alterity and Education**

The course offers a broad and in-depth study of the philosophical work of theorists such as Levinas, Lyotard, Kristeva, Derrida, Butler, and Spivak among others. It explores a multiplicity (ethical, linguistic, psychoanalytic, etc.) of approaches to alterity and presents the relationship of education to alterity as one of a subjectivization process, of developing a connection between the familiar and the uncanny. It also accounts for the relation of education to alterity in terms of polarizations between inwardness and outwardness as well as between reconstruction and deconstruction of meaning. By unravelling the many relations to alterity, the course broadens the various perspectives on educational topics such multiculturalism, cosmopolitanism,

the construction of subjectivities and regimes of normality in educational settings, processes of racialization, constructions and transformations of gendered boundaries and desires, the teaching of textuality, the rupture of borders, post-disaster memory and writing.

#### **EDU 556 Advanced Seminar in the Theory and Philosophy of Education**

The seminar offers an in-depth study of either: the work of a specific philosopher or of a specific school of thought/theory; or of an exchange between philosophers with regard to a concrete debate or to a dialogue between philosophers. It encourages students to make a concomitant investigation of educational ideas, ideals, aims and practices. The main objective of the course is the careful and attentive reading of philosophical and theoretical texts and the freeing of educational thought from algorithmic receptions of discourses related to issues of ethics, historiography, textuality, epistemology and so on.

#### **EDU 560 Contemporary Principles in Early Childhood Education**

This course enables students to study, explore and reconceptualise the current educational, theoretical, practical and research trends in the field of early childhood education. We will analyze specific ideological principles and directions (e.g., postmodernism, feminism, deconstruction, reconceptualism, multiculturalism, ethics, etc.) to help students reconceptualise current practices and ideologies. The multiple identities of the child will be explored through diverse perspectives. The goal is to have students reconceptualise their understanding of the field through research and theory.

#### **EDU 561 The Diverse Perspectives of Play**

This course examines the pedagogical approach to play. Specifically, the goal of the course is to help students view play as one of the most appropriate ways to enhance overall development and learning in early childhood. This will take place by considering the historical perspectives and multiple tenets of the subject (e.g., socially, cognitively, culturally, and politically). Play will be considered as a means to unravel and develop culture and social aspects of communities in an attempt to critically view current pedagogies. Finally, the course will explore current studies and theories of the potential of play in theory, praxis and research.

#### **EDU 562 Mathematical Thinking in the Early Years: Theoretical and Empirical Approaches**

**Theoretical and Empirical Approaches** This course examines contemporary theoretical perspectives on the development of mathematical thinking and mathematics education research trends in early childhood. Specifically, the course focuses on the following topics: the definition of mathematical thinking and its significance to young children's cognitive development; developmental progression of mathematical thinking in various concepts and processes-the learning trajectories approach; the development of problem solving strategies and intuitive rules as used by children; factors that influence the development of mathematical thinking; the role of representations and symbolism in the development of mathematical concepts and structures in young children; the impact of teaching on the development of mathematical concepts and abilities in young children; methods of exploring and assessing the development of mathematical thinking in young children; and future research directions.

#### **EDU 563 Supporting Creativity in Early Childhood Education**

This course examines multiple forms of creative expression and thought through a socio-cultural perspective. Various tools such as stories, picture books, comics, jokes, limericks, pictures, movies, toys, etc., are used to explore their role in developing creative and critical users and thinkers. The course looks at current research to enable students to develop methodology based on a theoretical framework that can enhance creativity in diverse ways during early childhood.

#### **EDU 564 Ways of Studying and Observing Young Children's Development and Learning**

This course examines various methods and approaches for investigating, observing, documenting and assessing children's development and learning in early childhood. Specifically, the course focuses on the following issues: how children think and express their thoughts; techniques for observation of individual children or children in groups; and documentation of young children's learning. Students will first critically explore and use existing assessment tools of learning and development in early childhood, and will then develop their own methods considering the unique characteristics of young children.

#### **EDU 565 The Semiotic Approach to Learning and Teaching Mathematics in Early Childhood**

The course focuses on the following topics: the definition and importance of semiotic representations in learning and teaching mathematics; internal and external representations; classification of representations; discussion of various theories about mathematical representations and their development in relation to learning early mathematics; the role of multiple representations in young children's understanding of mathematical concepts and problem solving; pictorial representations in books and the development of mathematical thinking; the significance of children's and the teacher's use of gestures in learning and teaching early mathematics; and research applications and methodological approaches used in the exploration of young children's development of representations.

#### **EDU 566 Social Dimensions of the Child's Development**

This course includes discussion of development issues through the prism of socio-cultural contexts in a child's life (e.g., family, child care, school, friends, playground). Based on socio-epistemological principles in the field of Education as well as the reconceptualisation of existing theories, we will identify the basic elements that affect children's social identities and examine their impact on the child's development. Using current research in the field of Early Childhood, students will critically analyze the variables that affect the provision of appropriate experiences and opportunities for the child within a hybrid society.

#### **EDU 567 Developing Research Proposals in the Field of Early Childhood Education**

This course will focus on recent Early Childhood research studies and methodologies in order to highlight gaps in the field and guide students in thinking about the most appropriate ways of developing research proposals in the field of Early Childhood Education. The students will learn how to write literature reviews, develop research questions, collect

and analyze data within the context of the international research agenda of the Early Childhood field.

#### **EDU 570 Research and Theory of Sports Pedagogy**

This course examines research, theory, and methods of physical education. The course offers a critical approach to analyzing the existing knowledge base in sports pedagogy. It explores the historical and contemporary perspectives on the research, theory, and methods related to teacher education in physical education.

#### **EDU 571 Instructional and Curriculum Models in Physical Education**

Presentation and analysis of various models of physical education. Description of instructional approaches and programs that maximize children's learning and improve educational systems. Study and critical analysis of programs and models used internationally.

#### **EDU 572 Current Issues in Sports Pedagogy**

This course examines recent topics and trends in physical education. Specifically, it investigates the major issues surrounding physical education in schools, analyzes the major trends in physical education, discusses the provisions of reform and their repercussions in physical education, and considers ways to make teaching more effective in physical education settings.

#### **EDU 573 Curriculum Development in Physical Education**

The course considers the principles underlying curriculum instruction and various curriculum elements in the field of sports pedagogy. It offers analysis of the planned and sequenced learning experiences that allow students to reach significant goals. Students study the standards-based physical education curriculum and build a program based on this approach.

#### **EDU 574 Analysis of Teaching in Physical Education**

The course presents and analyzes systems used in evaluating student behavior, teacher behavior and student-teacher interaction. Students will examine strategies for planning and implementing effective teaching in physical education.

#### **EDU 580 Theoretical Foundations of Instructional Technology: Problems and Prospects**

The course examines different theories that have influenced the field of Instructional Technology over the years. It also looks at their shortcomings and potential for grounding Instructional Technology research in rich theoretical frameworks. There is particular emphasis on the various methodological approaches of investigating research questions, as they result from the application of these theoretical frameworks. More specifically, the advantages and the weaknesses of each theory are analyzed within the context of Instructional Technology research interests including: the design and development of constructivist learning environments enhanced with technology, sociotechnical factors that may inhibit the successful adoption of technology in educational settings, and the development of distributed joint cognitive systems.

#### **EDU 581 Research Methodology in Instructional Technology: Conclusions and Applications**

This course examines a number of qualitative and quantitative studies representative of research efforts (local and

international) in Instructional Technology, and discusses the advantages, disadvantages, and usefulness of each research methodology. The analysis of the studies follows strict criteria related to issues of sampling, reliability, internal and external validity. The course emphasizes the need, however, for both analytic and systemic research methodologies in the field of Instructional Technology in order to examine adequately the interactions of individuals with technological tools.

#### **EDU 582 Preparation of Research Proposals in Instructional Technology**

The course identifies research areas and questions in the field of Instructional Technology that merit systematic examination. These include: grounding research in appropriate theoretical frameworks; literature review; design methodology; methods of data analysis; interpretation of results, conclusions, and their educational and theoretical importance and application.

#### **EDU 583 Design and Development of Interactive Learning Environments**

The course aims to design and develop interactive learning environments in order to promote the learners' cognitive and metacognitive skills for example, computational thinking and critical thinking. The students will be engaged in systematic technology mapping activities aiming to transform the content that will be taught and will be invited to take part in pedagogical practices with the affordances of technological tools. The constructivist environments that will be designed will integrate a variety of learning activities with simulations, modeling tools, educational games, and educational robotics for all educational levels, utilizing among others Scratch, LegoWeDo, Lego Mindstorms NXT and EV3.

#### **EDU 684 Ethnographic Approaches in Educational Research**

This course is an introduction to ethnographic research in education. The course looks at various issues including the origin of ethnographic research, the history and theoretical underpinnings of ethnographic research in education, the main similarities and differences between ethnographic research and other types of educational research studies, research questions addressed by ethnographic studies, the design and conducting of ethnographic research, ethics and morality in conducting ethnographic research, collection and management of ethnographic data (interviews, observations, documentary and archival research, film and video in ethnographic research), the role of the researcher-ethnographer, different approaches in analyzing ethnographic data, and writing and evaluating ethnographic research studies in education.

### **Ph.D. IN PEDAGOGICAL SCIENCES**

#### **Structure of the Ph.D. Programme**

Successful completion of 273 ECTS is required. This includes the following courses:

<b>5 Courses x 12 ECTS</b>	<b>60</b>
– 3 Compulsory Courses	
– 1 Elective Course	
– 1 Research Course	
<b>Comprehensive Examination (examination in 5 courses)</b>	<b>33</b>
<b>Research Stage (8 courses x 15 ECTS)</b>	<b>120</b>
<b>Dissertation Ia, Ib x 15 ECTS</b>	<b>30</b>

<b>Dissertation IIa, IIb x 15 ECTS</b>	<b>30</b>
<b>Total</b>	<b>273</b>
<i>Note: All work beginning with Dissertation III and following receives 0 ECTS.</i>	

### Aim of the Programme

This Postgraduate Programme offers education specialists and professionals involved in education the opportunity to undertake specialized studies in the pedagogical sciences. Those who successfully complete the programme to earn a doctoral degree can pursue an academic career.

### Requirements for Admission to the Ph.D. Programme

Applicants must hold a master's degree in a similar/ same area as the Ph.D. programme; a master degree in Science Education is also acceptable. Successful applicants must subsequently receive the approval of their postgraduate advisor to be admitted to the specific programme selected.

### Structure of the Ph.D. Programme

All courses selected for the Ph.D. programme must be approved by the student's postgraduate advisor.

	ECTS
<b>Christian Education</b>	
<b>Compulsory Courses</b>	<b>36</b>
EDU 530 Religious Aspects in Education	12
EDU 534 Religious Education in School	12
EDU 535 Methodology of Religious Education in School	12
<b>Sociology of Education</b>	
<b>Compulsory Courses</b>	<b>36</b>
EDU 550 Education and Social Exclusion	12
EDU 618 Sociological Aspects of Education	12
EDU 641 Education and Gender	12
<b>Preschool Education</b>	
<b>Compulsory Courses</b>	<b>36</b>
Three of the following:	
EDU 560 Contemporary Principles in Early Childhood Education	12
EDU 561 The Diverse Perspective of Play	12
EDU 562 Mathematical Thinking in the Early Years: Theoretical and Empirical Approaches	12
EDU 563 Supporting Creativity in Early Childhood Education	12
EDU 564 Ways of Studying and Observing Young Children's Development and Learning	12
EDU 565 The Semiotic Approach to Learning and Teaching Mathematics in Early Childhood	12

<b>Theory and Philosophy of Education</b>	
<b>Compulsory Courses</b>	<b>36</b>
Three of the following:	
EDU 555 Postmodern Philosophers, Alterity and Education	12
EDU 556 Advanced Seminar in the Theory and Philosophy of Education	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 601 Philosophical Dimensions of Education	12
EDU 611 Curriculum Theory	12
EDU 646 Globalization, Cosmopolitanism and Education	12
<b>Sports Pedagogy</b>	
<b>Compulsory Courses</b>	<b>36</b>
Three from the following:	
EDU 570 Research and Theory of Sports Pedagogy	12
EDU 571 Instructional and Curriculum Models in Physical Education	12
EDU 572 Current Issues in Sports Pedagogy	12
EDU 573 Curriculum Development in Physical Education	12
EDU 574 Analysis of Teaching in Physical Education	12
EDU 623 Observation and Evaluation of Teaching and Personnel	12
EDU 631 School Effectiveness and School Improvement	12
EDU 682 Qualitative Research in Education	12
EDU 780 Using Basic and Advanced Multilevel Modeling in Educational Research	12
EDU 788 Advanced Research Methods	12
<b>Cultural Dimension in Education</b>	
EDU 555 Postmodern Philosophers, Alterity and Education	12
EDU 556 Advanced Seminar in the Theory and Philosophy of Education	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 637 The Theory and Politics of Multicultural Education	12
EDU 646 Globalization, Cosmopolitanism and Education	12
One course from the Ph.D. Programme "Language and Education" (with the programme coordinator's approval)	
<b>Educational Technology</b>	
<b>Compulsory Courses</b>	<b>36</b>
EDU 580 Theoretical Foundations of Instructional Technology: Problems and Prospects	12
EDU 581 Research Methodology in Instructional Technology: Conclusions and Applications	12
EDU 582 Preparation of Research Proposals in Instructional Technology	12
EDU 583 Design and Development of Interactive Learning Environments	12
<b>Educational Research</b>	<b>12</b>
One of the following:	
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Package Applications	12

EDU 780 Using Basic and Advanced Multilevel Modeling in Educational Research	12
EDU 788 Advanced Research Methods	12
<b>Elective Courses</b>	<b>12</b>
One from the following:	
EDU 524 Text Linguistics-Multiliteracies	12
EDU 529 Monolingual, Bilingual, Multilingual Education: Attitudes, Trends and Perspectives	12
EDU 531 Religions in the Era of Globalisation	12
EDU 532 Issues of Ethics	
EDU 533 Education for Life. Lifelong Education	12
EDU 536 Religions and Gender	12
EDU 542 Special and Inclusive Education	12
EDU 548 Current Trends in Inclusive Education	12
EDU 550 Education and Social Exclusion	12
EDU 566 Social Dimensions of the Child's Development (humor, play, social agency, communities of practice, Barbie-TV)	12
EDU 567 Critical Reconceptualisations in Early Childhood Education	12
EDU 583 Design and Development of Interactive Learning Environments	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 601 Philosophical Dimensions of Education (S, I)	12
EDU 611 Curriculum Theory	12
EDU 618 Sociological Aspects of Education	12
EDU 625 Applications of New Technology in Educational Administration	12
EDU 637 The Theory and Politics of Multicultural Education	12
EDU 641 Education and Gender	12
EDU 643 Application of New Technology in Curriculum Development	12
EDU 646 Globalization, Cosmopolitanism and Education	12
EDU 647 Christian Humanocentrism and the Contemporary World	12
EDU 662 The Role of Information and Communication Technology in Promoting Learning in Natural Sciences	12
EDU 676 Contemporary Technology in Mathematics Teaching	12
EDU 689 Independent Study (in every specialization)	12

## Course Descriptions

All courses are credited with 12 ECTS.

### EDU 530 Theological Dimensions of Education

The theological dimensions of education and pedagogy. Ontologies and education. Several theories on the goal, content, methodology and valuation of education.

### EDU 531 Religions in the Era of Globalisation

Religions in the history of humankind. The ontologies of several religions. The great religions and religious phenomena today.

### EDU 532 Issues of Ethics

Ontologies and Ethics. Ethics in modernism and postmodernism. The great issues of Ethics.

### EDU 533 Education for Life; Lifelong Education

Education for life as lifelong education. Important factors in education today. Basic issues in education for life.

### EDU 534 Religious Education in School

History, goal, content, methodology, etc., of Religious Education in school. The role of Religious Education in Cypriot, European and global educational systems today.

### EDU 535 Methodology of Religious Education in School

The theological, philosophical, psychological, sociological and historical dimensions of Religious Education in school. Goals, curricula, textbooks, etc., for Religious Education in School.

### EDU 536 Religions and Gender

The sacred in relation to gender. Religious matriarchy. Religious patriarchy. The role of gender in the great religions of the world. The Orthodox Church and gender. Western Christianity and gender. Religious presentations of gender in a secular society.

### EDU 550 Education and Social Exclusion

Through a review of current literature, this course examines the role of the education system in producing current forms of social exclusion. The course analyzes the structural, systemic and psychological dimensions of social exclusion and examines how schools are agents both in reproducing and overcoming social exclusion.

### EDU 555 Postmodern Philosophers, Alterity and Education

The course offers a broad and in-depth study of the philosophical work of theorists such as Levinas, Lyotard, Kristeva, Derrida, Butler, Spivak, and others. It explores a multiplicity (ethical, linguistic, psychoanalytic, etc.) of approaches to alterity and presents the relation of education to alterity as one of a subjectivization process, of developing the connection between the familiar and the uncanny. It also accounts for the relation of education to alterity in terms of polarizations between inwardness and outwardness as well as between reconstruction and deconstruction of meaning. By unravelling the numerous relations to alterity, the course broadens the various perspectives on educational topics such as multiculturalism, cosmopolitanism, the construction of subjectivities and regimes of normality in educational settings, processes of racialization, constructions and transformations of gendered boundaries and desires, the teaching of textuality, the rupture of borders, and post-disaster memory and writing.

### EDU 556 Advanced Seminar in the Theory and Philosophy of Education

The seminar offers an in-depth study of either: the work of a specific philosopher or a specific school of thought/theory; or of an exchange between philosophers with regard to a concrete debate or to a dialogue between philosophers. It also promotes the study of a concomitant investigation of educational ideas, ideals, aims and practices. The main objectives of the course are the careful and attentive reading of philosophical and theoretical texts, and the consideration of educational thought

free from [algorithmic receptions of discourses] related to issues of ethics, historiography, textuality, epistemology and so on.

#### **EDU 560 Contemporary Principles in Early Childhood Education**

This course offers students an opportunity to study, explore and reconceptualise the current educational, theoretical, practical and research trends in the field of early childhood education. Specific ideological principles and directions will be further analyzed (e.g., postmodernism, feminism, deconstruction, reconceptualism, multiculturalism, ethics, etc.) in order to allow for reconceptualisation of current practices and ideologies. The multiple identities of the child will be explored through diverse perspectives. The goal is to have students reconceptualise their understanding of the field through research and theory.

#### **EDU 561 The Diverse Perspectives of Play**

This course examines the pedagogical approach to play. Specifically, the goal of the course is to enable students to look at play as one of the most appropriate ways to enhance overall development and learning in early childhood. To this end, the course will consider the historical perspectives and multiple tenets of the subject (e.g., socially, cognitively, culturally, and politically). Play will be considered as a means to unravel and develop cultural and social aspects of communities in an attempt to critically view current pedagogies. Finally, students will explore current studies and theories of the potential of play in theory, praxis and research.

#### **EDU 562 Mathematical Thinking in the Early Years**

Theoretical and Empirical Approaches This course examines contemporary theoretical perspectives of the development of mathematical thinking and mathematics education research trends in early childhood. Specifically, the course focuses on the following topics: the definition of mathematical thinking and its significance in young children's cognitive development; developmental progression of mathematical thinking in various concepts and processes—the learning trajectories approach; the development of problem solving strategies and intuitive rules as used by children; factors that influence the development of mathematical thinking; the role of representations and symbolism in the development of mathematical concepts and structures in young children; the impact of teaching on the development of mathematical concepts and abilities in young children; methods of exploring and assessing the development of mathematical thinking in young children; and future research directions.

#### **EDU 563 Supporeativity in Early Childhood Education**

In this course multiple forms of creative expression and thought are examined through a socio-cultural perspective. A variety of tools such as stories, picture books, comics, jokes, limericks, pictures, movies, toys, etc., will be used to explore how they help in developing creative and critical users and thinkers. The course will cover current research, which will give students the theoretical framework upon which to build a programme that will enhance creativity of children during early childhood education.

#### **EDU 564 Ways of Studying and Observing Young Children's Development and Learning**

This course examines various methods of and approaches to investigating, observing, documenting and assessing children's development and learning in early childhood. Specifically, the course focuses on the following issues: how children think and

express their thoughts; techniques for observation of both individual children and children in groups; and documentation of young children's learning. Students will first critically explore and use existing assessment tools of learning and development in early childhood; then they will develop their own methods and tools based on their knowledge of the unique characteristics of the early childhood age.

#### **EDU 565 The Semiotic Approach to Learning and Teaching Mathematics in Early Childhood**

The course focuses on the following topics: the definition and importance of semiotic representations in learning and teaching mathematics; internal and external representations; classification of representations; examination of various theories about mathematical representations and their development in relation to learning early mathematics; the role of multiple representations in young children's understanding of mathematical concepts and their problem solving; pictorial representations in books and the development of mathematical thinking; the significance of children's and the teacher's use of gestures in learning and teaching early mathematics; and research applications and methodological approaches used in the exploration of young children's development of representations.

#### **EDU 566 Social Dimensions of the Child's Development (humor, play, social agency, communities of practice, Barbie-TV)**

This course looks at development issues through the prism of socio-cultural contexts that encompass the child's life (e.g., family, child care, school, friends, playground). Using socio-epistemological principles in the field of education and psychology of learning (Vygotsky, Rogoff, etc.) as well as reconceptualising such theories, the basic elements that affect children's social identities will be extracted and their impact on development will be examined. The study of current research in the field of early childhood will allow students to critically analyze the variables which affect the provision of appropriate experiences and opportunities for the child in today's differentiated society.

#### **EDU 567 Critical Reconceptualisations in the Field of Early Childhood Education (types of research, children as researchers- project approach, power and ethics, quality, action research, teacher identities)**

During this course there will be a discussion of the ideological influences and the scientifically based actions in the field of early childhood education. The different epistemological principles and approaches will be explored, highlighting the multiple theoretical approaches in the field (e.g., modernism, postmodernism, feminism, deconstruction, reconceptualisation, multiculturalism, ethics). The goal is to critically reconstruct current ideas, theories and practices in the field.

#### **EDU 570 Research and Theory of Sports Pedagogy**

This course examines research, theory, and methods of physical education. The course offers a critical approach to the analysis of current thought regarding sports pedagogy. It explores historical and contemporary perspectives on the research, theory, and method of teacher education in physical education.

#### **EDU 571 Instructional and Curriculum Models in Physical Education**

The course presents and analyses various models of physical education. It examines instructional approaches and programs that maximize learning and improve educational systems. It studies and critically analyses programs and models that are

applied in international contexts.

#### **EDU 572 Current Issues in Sports Pedagogy**

This course is focused on recent topics and trends in physical education. Specifically, the course discusses the major issues surrounding physical education in schools, analyzes the major trends in physical education, discusses the running provisions of reform and their repercussions in physical education, and discusses quality and effective teaching in physical education settings.

#### **EDU 573 Curriculum Development in Physical Education**

The course examines the principles underlying curriculum instruction and various curriculum elements in the field of sports pedagogy. Students will analyze the planned and sequenced learning experiences that lead to significant goals. They will also study the standards-based physical education curriculum and build a program based on this approach.

#### **EDU 574 Analysis of Teaching in Physical Education**

The course presents and analyzes systems used in evaluating student behavior, teacher behavior and student-teacher interaction. It also looks at strategies for planning and implementing effective teaching in physical education.

#### **EDU 580 Theoretical Foundations of Instructional Technology: Problems and Prospects**

The course examines different theories that have influenced the field of Instructional Technology over the years, and their shortcomings and potential for grounding Instructional Technology research in rich theoretical frameworks. There is particular emphasis on the methodological approaches of investigating research questions as they result from the application of these theoretical frameworks. More specifically, the advantages and the weaknesses of each theory are analyzed within the context of Instructional Technology research interests such as: the design and development of constructivist learning environments enhanced with technology; sociotechnical factors that may inhibit the successful adoption of technology in educational settings; and the development of distributed joint cognitive systems.

#### **EDU 581 Research Methodology in Instructional Technology: Conclusions and Applications**

This course, examines a number of qualitative and quantitative studies representative of research efforts (local and international) in Instructional Technology, and considers the advantages, disadvantages, and usefulness of each research methodology. Analysis follows strict criteria related to issues of sampling, reliability, internal and external validity, but the course also discusses the need for both analytic and systemic research methodologies in the field of Instructional Technology, as these are required to examine adequately the interactions of individuals with technological tools.

#### **EDU 582 Preparation of Research Proposals in Instructional Technology**

The course identifies research areas and questions in the field of Instructional Technology that require systematic examination. It focuses on the importance of grounding research in appropriate theoretical frameworks, literature review, and design methodology. Also covered are data analysis methods, interpretation of results, conclusions, and their educational and theoretical importance and application.

#### **EDU 583 Design and Development of Interactive Learning Environments**

The course aims to design and develop interactive learning environments in order to promote the learners' cognitive and metacognitive skills for example, computational thinking and critical thinking. The students will be engaged in systematic technology mapping activities aiming to transform the content that will be taught and will be invited to take part in pedagogical practices with the affordances of technological tools. The constructivist environments that will be designed will integrate a variety of learning activities with simulations, modeling tools, educational games, and educational robotics for all educational levels, utilizing among others Scratch, LegoWeDo, Lego Mindstorms NXT and EV3.

#### **EDU 684 Ethnographic Approaches in Educational Research**

This course is an introduction to ethnographic research in education. The course examines issues such as the origin of ethnographic research, the history and theoretical underpinnings of ethnographic research in education, main similarities and differences between ethnographic research and other types of educational research studies, research questions addressed by ethnographic studies, design and conduct of ethnographic research, ethics and morality in conducting ethnographic research, collection and management of ethnographic data (interviews, observations, documentary and archival research, film and video in ethnographic research), the role of the researcher-ethnographer, different approaches in analyzing ethnographic data, and writing and evaluating ethnographic research studies in education.

*Note: More course descriptions are offered by other postgraduate programmes of the Department.*

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**MATHEMATICS EDUCATION****Aim of the Programme**

Technological development coupled with the increased demands associated with the social sciences make Mathematics a necessary tool for all subject areas. Moreover, growing awareness of mathematics' importance in the development of our "higher mental functions" and the constantly expanding concept of mathematics literacy call for greater emphasis on mathematics education. Advanced studies in mathematics will enable graduates to approach the relevant topics through research and critical analysis.

The aim of the programme is to educate individuals to analyse and interpret the aims and objectives of mathematics education, follow the recent developments in their subject and take up specific research efforts in the areas of mathematics teaching and learning.

The programme leads to the acquisition of Master and Doctoral Degrees.

**Structure of the Master's Programme**

Students must complete courses totalling 120 ECTS as shown in options A and B. The courses of the programme are divided in three categories: a) Specialization Courses, b) Educational Research Courses and c) Seminars. Students may complete one of the following options:

**• Option A (completion of 9 courses and 3 seminars)**

The student selects eight courses from the Specialization Courses (96 ECTS), one course from the Educational Research Courses (12 ECTS) and 3 Seminars (12 ECTS).

**• Option B (completion of 7 courses, 3 seminars and dissertation)**

The student selects six courses from the Specialization Courses (72 ECTS), one course from the Educational Research Courses (12 ECTS), three Seminars (12 ECTS) and completes a Dissertation (24 ECTS).

**OPTION A**

8 Specialization Courses (8 X 12 ECTS) + 1 Educational Research course (1 X 12 ECTS) + 3 Seminars (3 X 4 ECTS) = Total of 120 ECTS

	ECTS
<b>Specialization Courses</b>	<b>96</b>
<b>Compulsory Courses</b>	<b>24</b>
EDU 677 Theories of Representation and Educational Teaching	12
EDU 680 Theories of Mathematical Understanding	12
<b>Elective Courses</b>	<b>72</b>
Six of the following:	
EDU 562 Mathematical Thinking in the Early Years: Theoretical and Empirical Approaches	12
EDU 565 The Semiotic Approach to Learning and Teaching Mathematics in Early Childhood	12
EDU 671 Cognitive Analysis of Mathematics Learning (S,B)	12
EDU 672 Topics in the Philosophy and History of Mathematics	12
EDU 673 Mathematics Curriculum: Development and Evaluation	12
EDU 674 Mathematical Problem Solving	12
EDU 675 Recent Trends in Mathematics Education	12
EDU 676 Contemporary Technology in Mathematics Teaching	12
EDU 678 Affect and Mathematics Learning	12
EDU 679 Space, Visualization and Reasoning Methods	12
<b>Educational Research Courses</b>	<b>12</b>
One of the following:	
EDU 681 Advanced Educational Research Methods	12
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Packages Applications	12
EDU 780 Using Basic and Advanced Multilevel Modeling in Educational Research	12
EDU 788 Advanced Research Methods	12
<b>Seminars</b>	<b>12</b>
EDU 732 Seminar in Mathematics Education I	4
EDU 742 Seminar in Mathematics Education II	4
EDU 762 Seminar in Mathematics Education III	4
<b>Total</b>	<b>120</b>

**OPTION B**

6 Specialization Courses (6 X 12 ECTS) + 1 Educational Research course (1 X 12 ECTS) + Dissertation (24 ECTS) + 3 Seminars (12 ECTS) = Total of 120 ECTS

	ECTS
<b>Specialization Courses</b>	<b>72</b>
<b>Compulsory Courses</b>	<b>24</b>
EDU 677 Theories of Representation and Educational Teaching	12
EDU 680 Theories of Mathematical Understanding	12
<b>Elective Courses</b>	<b>48</b>
Four of the following:	
EDU 562 Mathematical Thinking in the Early Years: Theoretical and Empirical Approaches	12
EDU 565 The Semiotic Approach to Learning and Teaching Mathematics in Early Childhood	12
EDU 671 Cognitive Analysis of Mathematics Learning	12
EDU 672 Topics in the Philosophy and History of Mathematics	12
EDU 673 Mathematics Curriculum: Development and Evaluation	12
EDU 674 Mathematical Problem Solving	12
EDU 675 Recent Trends in Mathematics Education	12
EDU 676 Contemporary Technology in Mathematics Teaching	12
EDU 678 Affect and Mathematics Learning	12
EDU 679 Space, Visualization and Reasoning Methods	12
<b>Educational Research Courses</b>	<b>12</b>
One of the following:	
EDU 681 Advanced Educational Research Methods	12
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Packages	12
EDU 780 Using Basic and Advanced Multilevel Modeling in Educational Research	12
EDU 788 Advanced Research Methods	12
<b>Dissertation</b>	<b>24</b>
EDU 798M Dissertation I	12
EDU 799M Dissertation II	12
<b>Seminars</b>	<b>12</b>
EDU 732 Seminar in Mathematics Education I	4
EDU 742 Seminar in Mathematics Education II	4
EDU 762 Seminar in Mathematics Education III	4
<b>Total</b>	<b>120</b>

**Structure of the Ph.D. Programme**

For information on the structure of the Ph.D. programme, see relevant paragraph above.

The courses of the programme must be approved by the student’s postgraduate advisor.

**Course Descriptions**

All courses are credited with 12 ECTS.

**EDU 562 Mathematical Thinking in the Early Years: Theoretical and Empirical Approaches**

See course description in previous pages.

**EDU 565 The Semiotic Approach to Learning and Teaching Mathematics in Early Childhood**

See course description in previous pages.

**EDU 671 Cognitive Analysis of Mathematics Learning**

The course uses a cognitive approach to examine how mathematics is understood and learnt. Methodologies and concepts from mathematics psychology are used to examine how mathematics knowledge develops. The course covers the following themes: intelligence theories, cognitive styles, mathematical creativity, students gifted in mathematics and critical thinking in mathematics.

**EDU 672 Topics in the Philosophy and History of Mathematics**

This course investigates the fundamental problems of the epistemology of mathematics such as what is mathematics and how is it created, what does it mean for a person to learn, how does learning take place, etc. The three main positions on the foundations of mathematics are discussed: Logicism, Formalism, and Intuitionism, as well as some recent views on quasi-empiricism (Lakatos, Putnam). Specifically, topics such as the concept of mathematical truth, the concept of proof are discussed. Philosophical topics are presented in the context of their historical development and emphasis is placed on methods and approaches that make use of history in the teaching of mathematics.

**EDU 673 Curriculum Development for Mathematics and Educational Evaluation**

This course is divided into two parts. The first part analyses fundamental aspects of curricula with emphasis on the organization and structure of mathematics curricula. A philosophical analysis of programmes developed in the last few years both in Greece and internationally is provided. The parameters influencing the development of curricula are investigated. Special emphasis is given to the content and the pedagogical aspect of mathematics curricula and several models of developing curricula are examined. Specifically, the curricula used in the United States, United Kingdom, and Greece are examined and compared to those used in Cyprus. In the second part of the course, emphasis is placed on the importance of assessment in the effort to modernize the curriculum. In particular, methods of curricular assessment in mathematics are presented and contemporary student evaluation procedures are examined. Finally, the international literature is examined for methods of specifying standards and the basic approaches to their assessment.

**EDU 674 Mathematical Problem Solving**

The course examines concepts and strategies related to mathematical problem solving, problem posing and assessment. We discuss the classical heuristics strategies proposed by Polya and more contemporary interpretations and their applications to the process of problem posing, the teaching process and assessment of problem-solving

capability. Introducing open problem activities in instruction is an integral part of the course. The course also attempts to offer a comprehensive assessment of the recent findings of the extensive research activity on the subject.

#### **EDU 675 Contemporary Research in Mathematics Education**

The aim of the course is to introduce the student to the main concepts and methods used in contemporary research on Mathematics Education. The course has three main dimensions:

- First Dimension: Concepts and Methods in Mathematics Teaching. Several concepts and methods associated with Mathematics Teaching are presented, such as the Didactic Contract, Didactic Transformation, the Concept of the Obstacle, Didactic Situations, and Framework Games. These concepts and methods are applied to mathematical concepts of primary and secondary education.
- Second Dimension: Language and Learning in Mathematics. This involves the reading of mathematical texts; characteristics of mathematical texts; comprehension tests; types of legibility; completion tests.
- Third Dimension: Representation Problems in the Teaching and Learning of Mathematics. This dimension presents evidence on the role of representations and translations in the learning of mathematics and the solution of problems. It examines applications associated with mathematical concepts used in primary and secondary education.

#### **EDU 676 Contemporary Technology in Mathematics Teaching**

The course examines current findings in relation to the incorporation of technology with the subject of mathematics. Special emphasis is given to contemporary theories of psychology, which constitute the basis for the introduction of new learning processes. The course discusses ways of incorporating computers and software packages (Logo, Mathematica, Cabri, Spreadsheets, Sketchpad, etc.) in the teaching of mathematical concepts, with emphasis on use of the Internet. It analyzes methods of introducing and using computer graphics in the teaching of algebra and calculus. Finally, it presents projects developed abroad concerning the introduction of technology in the teaching of mathematics.

#### **EDU 677 Theories of Representation and Educational Applications**

A central goal of the course is the presentation of Representation Theories, which indicate the power of internal representations of the subjects in learning mathematics. For this reason several studies on the role of representations are critically examined. These studies are categorized in four domains according to their content:

- Studies which suggest a representation theory
- Studies which examine the relation between representations and problem solving
- Studies which examine the change in the field of representations
- Studies which examine the relation between representations and specific mathematical concepts (functions, fractions, proportions, area, etc)

#### **EDU 678 Affect and Mathematics Learning**

The aim of this course is the study of the connections between the affective domain and the teaching and learning of mathematics. Specifically, the meaning and the role of the concepts “attitudes towards mathematics,” “beliefs” and

“conceptions,” “motivation” and “metacognition,” “self-esteem” and “self-concept,” “self-efficacy” and “self-regulation” with respect to teaching and learning mathematics and in particular with respect to problem solving, are discussed and analysed.

#### **EDU 679 Space, Visualization and Reasoning in Geometry**

The course is focused on three dimensions related to the study of Geometry.

The first dimension concerns children’s perception of space and the variety of perceptual, cognitive and epistemological obstacles related to space perception.

The second dimension deals with the representations related to the perception of space.

The third dimension concentrates on students’ reasoning in Geometry.

#### **EDU 680 Theories of Mathematical Understanding**

The aim of the course is to draw together contemporary views on the growth of mathematical knowledge and relate these to theories developed within Mathematics Education Research.

The main themes of the course are:

- Different forms of mathematical understanding
- Cognitive growth in mathematics
- Notions of abstraction and their influence on the development of mathematical concepts
- Intuitive rules and mathematical understanding

#### **EDU 681 Advanced Educational Research Methods**

Please refer to other graduate programmes of the department.

#### **EDU 682 Qualitative Research in Education**

Please refer to other graduate programmes of the department.

#### **EDU 780 Using Basic and Advanced Multilevel Modelling in Educational Research**

Please refer to other graduate programmes of the department.

#### **EDU 788 Advanced Research Methods**

For course description please refer to other graduate programmes of the department.

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## LEARNING IN NATURAL SCIENCES

### Justification of the Programme

Learning depends on the activation of multiple cognitive processes. Recent developments in cognitive science provide the basis for a systematic approach to understanding, investigating and modelling science learning processes.

Natural sciences constitute an advanced and complex sphere of knowledge with widely accepted capabilities of prediction and interpretation. Consequently, learning in natural sciences poses special challenges both for learners and for the educational system that supports them.

Many educational systems consider as basic priorities an adequate understanding of nature and the acquisition of skills for scientific analysis and systematic reasoning.

There is a need for teachers in primary and secondary education to acquire research skills. The programme aspires to foster the development of researchers specialized in science learning who will be well equipped in terms of knowledge from natural sciences, cognitive psychology, and research methodology and thus be in a position to provide the evidence that will support a continuous qualitative upgrading of educational policy in science.

### Aims and Objectives of the Programme

The general aim of the programme is to offer comprehensive education for researchers in science education. Programme participants will acquire skills in basic and applied research; they will develop strategies for evaluating and reforming educational policy; and they will acquire skills for critically analysing recent trends and findings related to science education.

After successful completion of the programme, it is expected that students:

- Will be acquainted with the basic literature on science learning, the current theories of cognitive development, and approaches to the design, development, and implementation of educational programmes in natural sciences.
- Will develop skills for reviewing and critically analysing the literature related to specific research questions.
- Will be acquainted with a range of qualitative and quantitative research methods, and will acquire experience in applying these methods to the collection and analysis of data and in promoting the study of basic and applied questions in science learning.
- Will be able to formulate questions that could be investigated, specify the degree of constraint of these questions, and select an appropriate methodology for providing answers.

- Will be able to utilise available research evidence and develop detailed suggestions for educational policy changes taking into consideration existing needs and constraints of the educational system in an attempt to continuously optimise the effectiveness of the teaching-learning process in the natural sciences.

### Structure of the Master's Programme

For the Master's Programme, candidates for admission must have a first degree from a Department of Education, Engineering, Physics, Chemistry, Biology or Natural Sciences of an accredited University.

For the completion of the programme, each graduate student must successfully complete courses corresponding to 120 ECTS which are distributed as follows:

- 15 or 19.5 ECTS in Core Courses
- 60 ECTS in Specialization Courses
- 33 ECTS in Dissertation
- 12 ECTS in Seminars

7 Courses (75 or 79.5 ECTS) + Dissertation (33 ECTS) + Seminars (12 ECTS) = TOTAL 120 or 124.5 ECTS

	ECTS
<b>Core Courses</b>	<b>15 or 19.5</b>
<b>Cognitive Psychology</b>	<b>7.5</b>
One of the following:	
PSY 605 Psychometrics	7.5
PSY 606 Cognitive Development	7.5
PSY 610 Psychology of Education	7.5
PSY 616 Mental Representation	7.5
PSY 620 Learning and Cognitive	7.5
PSY 668 Cognitive and Teaching Approaches (Theories of Knowledge acquisition and the process of learning)	7.5
<b>Methodology of Educational Research</b>	<b>12 or 7.5</b>
One of the following:	
EDU 681 Advanced Research Methods	12
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Packages Application	12
EDU 780 Using Basic and Advanced Multilevel Modelign in Educational Research	12
PSY 788 Advanced Research Methods	7.5
<b>Specialization Courses</b>	<b>60</b>
<b>Learning in Natural Sciences</b>	<b>24</b>
EDU 652 The Process of Inquiry in Natural Sciences	12
EDU 653 Cognitive Constraints in Learning Natural Sciences: Diagnosis and Teaching Interventions	12

<b>Epistemology</b>	<b>12</b>
One of the following:	
EDU 651 The Development of Theories in Natural Sciences: The Nature of Natural Sciences I	12
PSY 651 The Development of Scientific Theories	9
<b>Elective Courses</b>	<b>24</b>
EDU 602 Theory of Knowledge	12
EDU 660 Design, Development and Evaluation of Curricula	12
EDU 662 The Role of Information and Communication Technology in Promoting Learning in Natural Sciences	12
EDU 663 Modern Trends in Teaching Natural Sciences	12
EDU 664 Integrated Curricula in Natural Sciences (compulsory for graduates of the Education Department)	12
EDU 665 Environmental Education	12
EDU 666 Cognitive Science and the Teaching of Natural Sciences	12
EDU 667 Development of Scientific Reasoning: Cognitive and Teaching Approaches	12
EDU 669 Design and Analysis of Educational Software Related to the Natural Sciences	12
EDU 689C Independent Study	12
EDU 800 Master's Thesis I*	16.5
EDU 801 Master's Thesis II*	16.5
<i>*Note: Compulsory for the graduate students of the Department of Education</i>	
<b>Seminars</b>	<b>12</b>
EDU 733 Learning in Natural Sciences Seminar I	4
EDU 743 Learning in Natural Sciences Seminar II	4
EDU 763 Learning in Natural Sciences Seminar III	4
<b>Total</b>	<b>120 or 124.5</b>

## Structure of the Ph.D. Programme

For admission to the Ph.D. programme, a Master degree in the general area of Science Education is required.

	ECTS
<b>Compulsory Courses</b>	<b>60</b>
EDU 751 Design of Research Proposals	12
EDU 752 Analysis and Implementation of Research Evidence	12
EDU 753 Models of Teaching and Didactical Recontextualization of the Content of Natural Sciences	12
Any two courses from the list of elective courses of the Master's programme	24

## Completion of the Programme

For the completion of the programme, students are required to:

- Successfully complete a comprehensive examination
- Complete a Ph.D. dissertation, present its results in an open seminar and defend it successfully before a five-member examination committee

## Course Descriptions

All courses are credited with 12 ECTS.

### EDU 602 Theory of Knowledge

Issues pertaining to the nature of knowledge, the way knowledge is acquired, which mechanisms facilitate its acquisition, the degree of its validity and other related problems have occupied human thought for centuries. The issue of the nature of knowledge is of special importance to education, insofar as its main aim relates to the construction and dissemination of knowledge. The course examines all the related issues from a systematic rather than from a historic perspective and focuses on the various attempts to resolve different epistemological problems. The course emphasizes the relation between theory and experimentation as a factor contributing to the development of scientific theories and the effective teaching and understanding of their conceptualizations. The approach is not just philosophical but also relies on research in other disciplines, such as psychology and cognitive science, to the extent that the study of some philosophical issues can be approached and advanced based on the findings of these disciplines.

### EDU 651 The Development of Theories in Natural Sciences: The Nature of Natural Sciences I

The main topic of this course relates to the nature of scientific theories and deals with issues such as the process of discovery and the verisimilitude of scientific theories, the role of experimentation, the sociology of scientific research, and the main attributes differentiating a scientific theory from other thought processes. Epistemological issues related to scientific theories, such as their truth and their correspondence with reality, as well as realism in science will also be discussed. Different scientific approaches, as they are revealed through the history of the natural sciences, will be examined.

### EDU 652 The Process of Inquiry in Natural Sciences

The course explores the process of inquiry as it relates to scientific conceptualizations and consequent explanation of natural phenomena. Within this framework, the logical relationship between the scientific concepts embedded in a hypothesis and the design of a valid experiment are exemplified. We place emphasis on the formulation of appropriate questions and the design and implementation of investigations. We recognize the role of empirical data and the importance of critical evaluation of the data sources, the data collection process as well as the validity of data processing and analysis. Issues related to scientific reasoning and argumentation, the integration of procedural and conceptual knowledge, and the contribution of mathematics and technology in promoting the process of inquiry are also examined.

### EDU 653 Cognitive Constraints in Learning Natural Sciences: Diagnosis and Teaching Interventions

Student responses to questions relating to issues of natural sciences reveal problems in their understanding, for example,

preconceptions, naive conceptions, alternative frameworks, inert knowledge, context-dependent knowledge, contradictions. The course exemplifies ways of identifying these problems and examines theoretical propositions regarding their interpretation. Within these theoretical orientations, the course examines the role of different factors such as pre-existing knowledge, conceptual reasoning or epistemological difficulties, and instructional approaches in an attempt to address the issues pertaining to the design of more effective teaching interventions.

#### **EDU 660 Design, Development and Evaluation of Curricula**

Curricula play an important role in the educational process. The course examines issues related to science curricula. We explore systematic approaches to the design of curricula emphasizing principles such as conceptual hierarchies and epistemological analysis in determining activity sequences and cross-connections. We discuss ways of promoting the effectiveness of curricula in guiding students to overcome specific conceptual, reasoning, and epistemological difficulties. We examine issues related to the implementation of curricula, in particular, the role of facilitator questions in open and guided inquiry, the practical aspects of systematic development of a coherent conceptual framework and the integrated development of conceptual understanding and reasoning skills. Finally, we explore different methods for validating curriculum materials in relation to the intended objectives of conceptual understanding and the development of reasoning and investigative skills.

#### **EDU 661 The Development of Theories in Natural Sciences: The Nature of Natural Sciences II**

This course builds on EDU 651 and emphasizes the issues related to specific historical advancements in natural sciences, as they are depicted in authentic sources describing the scientific activities of prominent scientists (Newton, Faraday, Lavoisier, Darwin, etc.). Through an in-depth analysis of these historical sources, the development of scientific ideas and methods of investigation will be revealed. The main objective is to focus on the ways scientists understand and face the different methodological and philosophical problems that are interrelated with the on-going scientific enterprise.

#### **EDU 662 The Role of Information and Communication Technology in Promoting Learning in Natural Sciences**

Cognitive tools for teaching and learning. Mechanisms for integrating and applying information and communication tools in the development of curriculum materials in the natural sciences. Information and communication tools for modelling, simulating, communicating, organizing and processing information, controlling mechanisms and sensors. Modelling as a process of teaching and learning.

#### **EDU 663 Modern Trends in Teaching Natural Sciences**

Intended learning outcomes (dissemination of information, cognitive and procedural skills, construction of concepts) and teaching approaches. Teaching methods and teaching interventions. Cooperative learning in natural sciences. Problem solving approaches. Teaching as a process of scientific investigation and as a process of promoting conceptual development. Development of attitudes and skills. The contribution of natural sciences in promoting social and cultural change.

#### **EDU 664 Integrated Curricula in Natural Sciences**

Physical and chemical systems and mechanisms. Modelling of phenomena and other approaches of integration. Reasoning abilities and scientific thinking. The development of conceptual understanding through integrated curricula (physics, chemistry, biology, and technology).

#### **EDU 665 Environmental Education**

Teaching methodologies in environmental education. Objectives of environmental education. Environmentally literate citizens. Environmental values. Theories of pro-environmental attitudes and behaviour. Building teachers' capabilities for evaluating and selecting educational material. Development and implementation of environmental education projects.

#### **EDU 666 Cognitive Science and the Teaching of Natural Sciences**

Cognitive science is a rather new scientific approach that examines the cognitive processes of intelligent beings from a variety of different perspectives, such as philosophy, psychology, neuroscience, linguistics, artificial intelligence, and dynamic systems theory. These perspectives converge in cognitive science in terms of applying different methods to the investigation of reasoning. Recently, research findings from cognitive science have been implemented in education. This is a significant development, because these findings are directly related to education. The course emphasizes recent developments in cognitive science in relation to general education and science education in particular.

#### **EDU 667 Development of Scientific Reasoning: Cognitive and Teaching Approaches**

Analysis of scientific approaches and skills, such as linking data and hypotheses, the formulation and testing of hypotheses, and the identification and control of variables. In-depth examination of current research and different theoretical perspectives on understanding the development of scientific thought. Implications for the design and implementation of teaching approaches conducive to the development of scientific reasoning.

#### **EDU 668 Theories of Knowledge Acquisition and the Process of Learning**

This is a core course for other graduate programmes and is described above.

#### **EDU 669 Design and Analysis of Educational Software Related to the Natural Sciences**

Analysis of teaching/learning problems. Design of total solutions and information and communication technology tools. Development of microworlds simulating natural phenomena. Distance learning. Design and development of websites facilitating interaction and communication among distributed learning communities. Sequencing learning activities through synthesis of software resources. Evaluation of the effectiveness of educational software.

#### **EDU 682 Qualitative Research in Education**

Please refer to other graduate programmes of the department.

**EDU 683 Educational Statistics with Applications of Statistical Packages**

Please refer to other graduate programmes of the department.

**EDU 689 Independent Study**

Students conduct an independent study within their own interests under the guidance of a faculty member specializing in science learning.

**EDU 751 Design of Research Proposals**

Identification of real problems that are amenable to productive investigation. Formulation of research questions or hypotheses that are open to investigation based on evidence. Projects as part of wider programmes of research. Literature review. Identifying and labelling variables, constructing operational definitions. Research design. Reliability and validity. Approaches to data collection and analysis. The implementation of research findings in practice. The theoretical and educational implications of research.

**EDU 752 Analysis and Implementation of Research Evidence**

Multiple interpretations of research data. The complementarity of qualitative and quantitative approaches to data analysis. The selection of appropriate analytical techniques in relation to specific research objectives and data constraints. Validity and reliability of research findings. Critical analysis of research reports. Generalization of research findings to wider populations. Open questions for research and current research trends. Complementarity in different research approaches.

**EDU 753 Teaching Models and Didactical Recontextualization of the Content of Natural Science**

Principles of designing learning environments in physical science. School knowledge and its relation to children's ideas and the structure and content of the discipline. Informal and non-formal approaches to science education. Developmental appropriateness in the objectives of science learning. The role of curriculum resources in effective teaching interventions. Teacher preparation in science.

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**DIDACTICS AND METHODOLOGY OF MATHEMATICS**

**(Joint degree programme of the University of Cyprus and the University of Athens)**

The Department of Education, the Department of Mathematics and Statistics of the University of Cyprus and the Department of Mathematics of the University of Athens, offer a postgraduate programme leading to a Master Degree in "Didactics and Methodology of Mathematics."

**Aim and Purpose of the Programme**

This is a new programme designed specifically for students with an undergraduate degree in mathematics. It entails an enhanced number of course units, which will be fulfilled during special summer sessions at the University of Athens. The degree will be granted by the University of Cyprus.

**Programme Requirements**

9 courses and 3 seminars are required for the completion of the programme:

- 8 courses from the area of Didactics and Methodology of Mathematics
- 1 course from the area of History – Philosophy
- 3 seminars

**Structure of the Programme**

The structure of the programme and courses is as follows:

**OPTION A**

8 Courses from the area of Didactics and Methodology of Mathematics (6 X 12 ECTS) + 1 Course from the area of History- Philosophy ( 1 X 12 ECTS) + 3 Seminars (3 X 4 ECTS) = Total of 120 ECTS

	ECTS
<b>Didactics of Mathematics</b>	<b>96</b>
Six of the following:	
EDU 501 Teaching of Analysis	12
EDU 671 Cognitive Analysis of Mathematics Learning	12
EDU 672 Topics in the Philosophy and History of Mathematics	12
EDU 673 Mathematics Curriculum: Development and Evaluation	12
EDU 674 Mathematical Problem Solving	12
EDU 675 Recent Trends in Mathematics Education	12
EDU 676 Contemporary Technology in Mathematics Teaching	12
EDU 677 Theories of Representation and Educational Application	12
EDU 678 Affect and Mathematics Learning	12

EDU 679 Space, Visualization and Reasoning Methods	12
EDU 680 Theories of Mathematical Understanding	12
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Packages Applications	12
Didactics of Mathematics Theory	12
Mathematics Teaching through Problem Solving	12
Teaching Algebra and Geometry	12
Teaching Probability and Statistics	12
The Integration of New Technology in Teaching Mathematics	12
Mathematics Teaching and History of Mathematics	12
Mathematics Modelling	12
Methods of Research in Teaching Mathematics	12
Special Issues in Teaching Mathematics	12

**History – Philosophy 12**

One of the following:	
EDU 503 Philosophy of Mathematics	12
EDU 504 Plato and Mathematics	12
MAS 523 Number Theory*	12
MAS 540 Modern Methods for Teaching High-School Mathematics*	12
MAS 584 Mathematics with Computer*	12
MAS 568 Topics in Probability-Statistics I	12

\*Note: These courses are offered every three or four semesters.

**Seminars 12**

EDU 736 Seminar of Didactics of Methodology of Mathematics I	4
EDU 746 Seminar of Didactics of Methodology of Mathematics II	4
EDU 766 Seminar of Didactics of Methodology of Mathematics III	4

**Total 120**

Note: The codification of courses is based on the courses offered every semester. Also, courses from other postgraduate programmes of the Department of Education and the Department of Mathematics and Statistics are offered.

For course descriptions please refer to other graduate programmes of the department.

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**SPECIAL AND INCLUSIVE EDUCATION**

**Introduction**

Cypriot society, which for centuries has been multicultural due largely to the historical and geographical conditions of the island, has in the last 20 years become populated by an even wider range of nationalities than it has ever known before. This cultural diversity, which is due to legal and illegal immigration, intermarriage, internationalization, accession to the European Union, opening of the green line check points, new legislation, etc., has positively enhanced the social landscape of Cyprus. It also has a wide and direct impact on the education system.

Moreover, in recent years the Cypriot State has passed legislation (113(I)/99 law) that stipulates the integration of children with disabilities and special needs in the mainstream ordinary school. This has been a demand of parents and disability organizations for several decades now.

Although the Cyprus education system is working to implement and accommodate these recent social and legislative changes, it is as yet incapable of adequately responding to this new variety of students. The Education Department of the University of Cyprus proposes a series of undergraduate and postgraduate programmes to help the situation, preparing teachers to react and respond to this new reality in the state schools. The programme described below aims to educate teachers to handle difference in school, with an emphasis on students with disabilities.

It is envisaged that this programme will:

- Enhance the undergraduate courses directed to this new area in education in Cyprus.
- Provide research opportunities in this very important and sensitive education area where very little has been done so far.
- Educate students to fill the many and various important posts arising from the implementation of the new legislation. These have so far been staffed by non-specialised personnel, who lack the necessary qualifications.
- Become part of the standard curriculum at the University of Cyprus.

### Programme Goals

The programme intends to inform, educate and raise the awareness of graduates in primary and secondary education, professional educators or education candidates on issues of differentiation in education, disability and inclusive education.

Our graduates will be in a position to:

- carry out research in the area of inclusive education
- function as points of reference in mainstream schools (primary and secondary) for the successful implementation of integration
- contribute through their teaching and general presence in schools to a functional participation of children with difference in the mainstream classroom and the mainstream school
- produce educational material that targets differentiation of the curriculum in order to support difference and disability in the classroom and the school
- support the educational process that is offered in special units through contribution to the curriculum with production of educational material
- function as catalysts for integration in the general educational system of Cyprus
- continue onto graduate studies and research in the area of inclusive education

### Structure of the Master's Programme (90 ECTS)

#### OPTION A

7 Taught Courses x 12 ECTS (84 ECTS) + 3 Seminars x 4 ECTS (12 ECTS) + Master's Thesis (24 ECTS) = 120 ECTS in total

#### OPTION B

9 Taught Courses x 12 ECTS (108 ECTS) + 3 Seminars x 4 ECTS (12 ECTS) = 120 ECTS in total

	ECTS
<b>Compulsory Courses</b>	<b>48</b>
EDU 542 Special and Inclusive Education in Cyprus	12
EDU 545 Disability in the Society and School	12
EDU 639 Inclusive Education: the New Face of Special Education?	12
One of the following:	
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Package Applications	12
<b>Optional Courses</b>	<b>12 or 36</b>
One (Option A) or three (Option B) of the following:	
EDU 522 Contemporary Approaches to Literacy Development	12

EDU 529 Monolingual, Bilingual, Multi-lingual Education: Attitudes, Trends and Perspectives	12
EDU 550 Education and Social Exclusion	12
EDU 555 Postmodern Philosophers, Alterity and Education	12
EDU 560 Contemporary Principles in Early Childhood Education	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 601 Philosophical Dimensions of Education (S, I)	12
EDU 603 Comparative Education	12
PSY 610 Psychological Aspects of Education	7.5
EDU 618 Sociological Aspects of Education	12
EDU 623 Observation and Evaluation of Teaching and Personnel	12
EDU 631 School Effectiveness and School Improvement	12
EDU 637 The Theory and Politics of Multicultural Education	12
EDU 641 Education and Gender	12
EDU 645 Educational Policy	12
EDU 646 Globalization, Cosmopolitanism and Education	12
EDU 647 Christian Humanocentrism and the Contemporary World	12
EDU 689 Independent Study	12
Any other course upon permission of the student's Postgraduate Advisor or the coordinator of the Programme	

#### Specialization Courses **24**

Two of the following:

EDU 541 The Pedagogy of Inclusion	12
EDU 543 Home-School Relations on the Edge of Difference	12
EDU 544 Inclusive Education and Technology	12
EDU 546 Differentiation in the Inclusive Classroom	12
EDU 547 Evaluation in the Inclusive Classroom	12
EDU 548 Current Trends in Inclusive Education	12

#### Seminars **12**

EDU 737 Aspects of Inclusive Education I	4
EDU 747 Aspects of Inclusive Education II	4
EDU 767 Aspects of Inclusive Education III	4

#### Master's Thesis **24**

EDU 798N Master's Thesis I	12
EDU 799N Master's Thesis II	12

#### TOTAL **120**

*\*Note: Specialization Courses can also be credited as Optional Courses.*

### Course Descriptions

All courses are credited with 12 ECTS.

#### EDU 540 The Concept of Disability in Greek and International Literary Texts

This course aims to analyze how the concept of disability is constructed in Greek and international literary texts. More specifically, texts and poems that have disability issues as their

subject are discussed and analyzed. The analysis pays special attention to the period in which the texts were written and the particular characteristics of that period (political, social, financial, moral and spiritual context). The texts are examined for their susceptibility to stereotypical depictions of and attitudes towards disability (oppressive rhetoric, devaluation of the disabled person's life, rejection of the disabled body as not beautiful, inability and passivity of the disabled person). Though discussion and analysis, students are forced to think critically about contemporary views on disability and to develop the skills they will need in order to select non-prejudicial texts for use with young students.

#### **EDU 541 The Pedagogy of Inclusion**

The course deals with pedagogy issues which facilitate the inclusion of the child with difference in the mainstream school and the mainstream classroom and support his/her functional and contributory presence in education.

#### **EDU 542 Special and Inclusive Education in Cyprus**

Historical development of special and inclusive education in Cyprus, internal pressures and external influences, information about the legislation, formulation of educational policy, dominant philosophy and school practice.

#### **EDU 543 Home-School Relations on the Edge of Difference**

The role of the school in the support of the child and his/her family, early intervention and education, political and educational role of the parents, coordination and cooperation of external factors, involvement of health and social security professionals, counseling of parents and education professionals.

#### **EDU 544 Inclusive Education and Technology**

Use of new technologies in support of disability. Support services of the Ministry of Education and cooperating services, E-learning and disability, specialized methods and models of support, theoretical approaches and practical applications, support of physical, sensory and mental disability, learning difficulties and technology, cooperation of pupils with and without special educational needs in technology and equipment.

#### **EDU 545 Disability in the Society and School**

The course is addressed primarily to postgraduate students of the Special and Inclusive Education master and PhD program (as a compulsory course) and to students enrolled in other postgraduate courses (as an elective). The course will present and examine the basic concepts and trends underlying the discipline of Disability Studies and Disability Studies in Education. Within this context, the following themes are examined: the construction of the concept of disability in the Greek-Cypriot culture (postmodern approach); and the personal experience of disability in everyday life and in the disability movement (feminist approach). The course encourages reflection on ways to implement theoretical and research data in ways that will enhance the national curriculum with the voice and work of disabled people. The course is offered in the Fall semester of each academic year.

#### **EDU 546 Differentiation in the Inclusive Classroom**

Differentiation of the curriculum in order to offer more access to people with difference. Geographical access. Access to

school activities. Access to the learning process. Access to the school society. Transfer from preschool to primary education, from primary to secondary and from secondary to university education.

#### **EDU 547 Evaluation in the Inclusive Classroom**

Differentiation of the evaluation based on the differentiated curriculum. Preparation of multi-level evaluation instruments. Evaluation in the preschool, primary and secondary education. Difference and competition. Meritocracy and justice in evaluation. The notion of the 'observer' and the role of evaluation.

#### **EDU 548 Current Trends in Inclusive Education**

Contemporary theories about difference and disability. The social model. Postmodernism. Feminist theories. The importance of politics. The value of personal experience. From the institution and the special school to Disability Studies.

#### **EDU 549 Disability Studies in Education**

This course will critically examine fundamental ideas and issues in Disability Studies, and consider how these are related to the principles of inclusive education. Thus, the following themes will be discussed: the construction of the concept of disability, the medical and the social model of disability, the personal experience of disability and the links with politics, the impact of the local culture and history to the construction of disability rhetoric. The course looks at the classic and more contemporary works by disabled Activists, Academics and Theorists, and draws links with current inclusive education issues (i.e., deconstruction and redefinition of the concept of disability, re-conceptualization of the power of specialists, the nature of the curriculum, the making of the inclusive school, and the nature of an inclusive education system).

## **Structure of the Ph.D. Programme**

### **Aim of the Programme**

The Ph.D. in Inclusive Education focuses on the critical analysis of issues related to disability and education while it also considers other important theoretical ideas in closely related areas (i.e., society, history, politics). The PhD programme aims to provide its students with a rich theoretical background, critical thinking skills, research skills and an ethical commitment to inclusive principles. To this end, the programme focuses on analysis of local and international research into inclusive education and disability. The programme is open to holders of a Master degree. These may be pre-primary, primary or secondary school educators, or students who have a relevant degree (e.g., special and/or inclusive education, disability studies, psychology and sociology of education).

### **Programme Requirements**

To be eligible to enroll in the Ph.D. Programme in Special and Inclusive Education, applicants must have a Master degree in one of the following areas:

- Education
- Inclusive Education

- Disability Studies
- Special Education
- Sociology of Education
- Educational Psychology

To be awarded a Ph.D. in Special and Inclusive Education, students must have completed the following requirements:

	ECTS
<b>5 Courses X 12 ECTS</b>	<b>60</b>
- 3 Compulsory Courses	
- 1 Elective Course	
- 1 Research Course	
<b>Research phase (8 stages X 15 ECTS)</b>	<b>33</b>
<b>End of Year Exam (exam in 5 modules)</b>	<b>120</b>
<b>Dissertation Ia, Ib X 15 ECTS</b>	<b>30</b>
<b>Dissertation IIa, IIb X 15 ECTS</b>	<b>30</b>
<b>TOTAL</b>	<b>273</b>

	ECTS
<b>Compulsory Courses</b>	<b>36</b>
Three of the following:	
EDU 540 The Concept of Disability in Greek and International Literary Texts	12
EDU 541 The Pedagogy of Inclusion	12
EDU 542 Special and Inclusive Education in Cyprus	12
EDU 543 Home-School Relations on the Edge of Difference	12
EDU 544 Inclusive Education and Technology	12
EDU 545 Disability in School and Society	12
EDU 546 Differentiation in the Inclusive Classroom	12
EDU 547 Evaluation in the Inclusive Classroom	12
EDU 548 Current Trends in Inclusive Education	12
EDU 549 Disability Studies in Education	12
EDU 639 Inclusive Education: The New Face of Special Education	12
<b>Optional Courses</b>	<b>12</b>
One of the following:	
EDU 530 Theological Dimensions of Education	12
EDU 555 Postmodern Philosophers, Alterity and Education	12
EDU 570 Research and Theory of Sports Pedagogy	12
EDU 598 Postcolonial Theory and the Curriculum	12
EDU 611 Curriculum Theory	12
EDU 618 Sociological Aspects of Education	12
EDU 627 Introduction to Innovations in Education	12
EDU 628 Education and Multicultural Society	12
EDU 637 The Theory and Politics of Multicultural Education	12
EDU 643 Application of New Technology in Curriculum Development	12
EDU 689N Independent Study	12

<b>Research Courses</b>	<b>12</b>
One of the following:	
EDU 682 Qualitative Research in Education	12
EDU 683 Educational Statistics with Statistical Packages Applications	12

## Course Descriptions

All courses are credited with 12 ECTS.

### **EDU 540 The Concept of Disability in Greek and International Literary Texts**

This course aims to analyze how the concept of disability is constructed in Greek and international literary texts. More specifically, texts and poems that have disability issues as their subject are discussed and analyzed. The analysis pays special attention to the period in which the texts were written and the particular characteristics of that period (political, social, financial, moral and spiritual context). The texts are examined for their susceptibility to stereotypical depictions of and attitudes towards disability (oppressive rhetoric, devaluation of the disabled person's life, rejection of the disabled body as not beautiful, inability and passivity of the disabled person). Though discussion and analysis, students are forced to think critically about contemporary views on disability and to develop the skills they will need in order to select non-prejudicial texts for use with young students.

### **EDU 541 The Pedagogy of Inclusion**

The course deals with pedagogy issues which facilitate the inclusion of the child with difference in the mainstream school and the mainstream classroom and support his/her functional and contributory presence in education.

### **EDU 542 Special and Inclusive Education in Cyprus**

Historical development of special and inclusive education in Cyprus, internal pressures and external influences, information about the legislation, formulation of educational policy, dominant philosophy and school practice.

### **EDU 543 Home-School Relations on the Edge of Difference**

The role of the school in the support of the child and his/her family, early intervention and education, political and educational role of the parents, coordination and cooperation of external factors, involvement of health and social security professionals, counseling of parents and education professionals.

### **EDU 544 Inclusive Education and Technology**

Use of new technologies in support of disability. Support services of the Ministry of Education and cooperating services, E-learning and disability, specialized methods and models of support, theoretical approaches and practical applications, support of physical, sensory and mental disability, learning difficulties and technology, cooperation of pupils with and without special educational needs in technology and equipment.

### **EDU 545 Disability in School and Society**

Social construction of disability. The role of education in the social reproduction of stereotypes and fears about difference and disability. Deconstruction of relevant stereotypes and

biases. The role of the educator, the role of peers, the role of parents. Christianity and disability. Disability and Literature.

#### **EDU 546 Differentiation in the Inclusive Classroom**

Differentiation of the curriculum in order to offer more access to people with difference. Geographical access. Access to school activities. Access to the learning process. Access to the school society. Transfer from preschool to primary education, from primary to secondary and from secondary to university education.

#### **EDU 547 Evaluation in the Inclusive Classroom**

Differentiation of the evaluation based on the differentiated curriculum. Preparation of multi-level evaluation instruments. Evaluation in the preschool, primary and secondary education. Difference and competition. Meritocracy and justice in evaluation. The notion of the 'observer' and the role of evaluation.

#### **EDU 548 Current Trends in Inclusive Education**

Contemporary theories about difference and disability. The social model. Postmodernism. Feminist theories. The importance of politics. The value of personal experience. From the institution and the special school to Disability Studies.

#### **EDU 549 Disability Studies in Education**

This course will critically examine fundamental ideas and issues in Disability Studies, and consider how these are related to the principles of inclusive education. Thus, the following themes will be discussed: the construction of the concept of disability, the medical and the social model of disability, the personal experience of disability and the links with politics, the impact of the local culture and history to the construction of disability rhetoric. The course looks at the classic and more contemporary works by disabled activists, academics and theorists, and draws links with current inclusive education issues (i.e., deconstruction and redefinition of the concept of disability, re-conceptualization of the power of specialists, the nature of the curriculum, the making of the inclusive school, and the nature of an inclusive education system).

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## **LANGUAGE PEDAGOGY**

### **Aim of the Programme**

The aims of this M.A. programme are to provide educators with the required theoretical, methodological and research background in Language Pedagogy and to set the foundations for the production of research in this area.

The program aims to cater to the Cypriot education community's strongly expressed need for specialisation in aspects of Greek language and language teaching methodology.

### **Structure of the Programme**

Completion of the programme requires 120 ECTS. Students may take one of the following options:

#### **OPTION A**

9 Courses x 12 ECTS + 3 Seminars x 4 ECTS = Total 120 ECTS

	ECTS
<b>CYCLE A</b>	
One Course in Education Research (compulsory)	12
<b>CYCLE B</b>	
Two Compulsory Courses and four Limited-choice Electives	72
<b>CYCLE C</b>	
Two Free Elective Courses from other postgraduate programmes in the Department (one can be an independent study course)	24
<b>CYCLE D</b>	
Three postgraduate Seminars	12
<b>Total</b>	<b>120</b>

#### **OPTION B**

7 Courses x 12 ECTS + 3 Seminars x 4 ECTS + Master's Thesis (24 ECTS) = Total 120 ECTS

	ECTS
<b>CYCLE A</b>	
One Course in Education Research (compulsory)	12
<b>CYCLE B</b>	
Two Compulsory Courses and four Limited-choice Electives	72
<b>CYCLE C</b>	
Three Postgraduate Seminars	12
Master's Thesis	
Dissertation I and II	24
<b>Total</b>	<b>120</b>

### **Programme Details**

#### **OPTION A**

	ECTS
<b>CYCLE A</b>	
<b>Education Research</b>	<b>12</b>
One of the following:	
EDU 681 Advanced Methods in Education Research	12

EDU 682 Qualitative Research in Education	12
EDU 683 Education Statistics	12
<b>CYCLE B</b>	
Two Compulsory Courses (24 ECTS) and four Limited-choice Electives (48 ECTS)	72
<b>Compulsory Courses (2)</b>	
EDU 521 First Language Acquisition	12
EDU 522 Contemporary Approaches to Literacy Development	12
<b>Limited-Choice Courses (4)</b>	
EDU 523 The Development of Semantic, Pragmatic and Communicative Competence	12
EDU 524 Text Linguistics-Multiliteracies	12
EDU 525 Teaching the Structure of Language	12
EDU 526 Teaching Literature	12
EDU 527 Capitalising on Language Variation in Education	12
EDU 528 Second Language Acquisition	12
EDU 529 Monolingual, Bilingual, Multilingual Education: Attitudes, Trends and Perspectives	12
<b>CYCLE C</b>	
<b>Free Elective Courses</b>	<b>24</b>
Two Free Elective Courses from other postgraduate programmes in the Department (one can be an independent study course)	
Courses suggested:	
EDU 601 Philosophical Dimensions of Education (S, I)	12
EDU 603 Comparative Education	12
EDU 605 Postmodernity and Education	12
EDU 611 Theory of Curriculum Development	12
EDU 618 Sociological Dimensions of Education	12
EDU 637 Theory and Practice of Intercultural Education	12
EDU 639 Inclusive Education: The New Face of Special Education	12
EDU 641 Gender and Education	12
EDU 646 Globalisation, Cosmopolitanism and Education	12
EDU 689C Independent Study	12
EDU 781 Discourse Analysis of Student-Teacher Interaction	12
<b>CYCLE D</b>	
<b>Three Postgraduate Seminars</b>	<b>12</b>
Seminars suggested:	
EDU 738 Language Pedagogy I	4
EDU 748 Language Pedagogy II	4
EDU 768 Language Pedagogy III	4
<b>OPTION B</b>	
	ECTS
<b>CYCLE A</b>	
<b>Education Research</b>	<b>12</b>
One of the following:	
EDU 681 Advanced Methods in Education Research	12

EDU 682 Qualitative Research in Education	12
EDU 683 Education Statistics	12
<b>CYCLE B</b>	
Two Compulsory Courses (24 ECTS) and four Limited-Choice Electives (48 ECTS)	72
<b>Compulsory Courses (2)</b>	
EDU 521 First Language Acquisition	12
EDU 522 Contemporary Approaches to Literacy Development	12
<b>Limited-choice Courses (4)</b>	
EDU 523 The Development of Semantic, Pragmatic and Communicative Competence	12
EDU 524 Text Linguistics-Multiliteracies	12
EDU 525 Teaching the Structure of Language	12
EDU 526 Teaching Literature	12
EDU 527 Capitalising on Language Variation in Education	12
EDU 528 Second Language Acquisition	12
EDU 529 Monolingual, bilingual, multilingual education: attitudes, trends and perspectives	12
<b>CYCLE C</b>	
<b>Three Postgraduate Seminars</b>	<b>12</b>
Seminars suggested:	
EDU 738 Language Pedagogy I	4
EDU 748 Language Pedagogy II	4
EDU 768 Language Pedagogy III	4
<b>Master's Thesis</b>	
EDU 798C M.A. Dissertation I	12
EDU 799C M.A. Dissertation II	12

## Ph.D. PROGRAMME IN LANGUAGE AND EDUCATION

### Aim

The Ph.D. Programme in Language and Education emphasises research in the areas of language arts, literacy education, and applied linguistics in language teaching and education. The programme provides students with research and methodological foundations in language, literacy and pedagogy, offering a sound theoretical framework on issues covering sociocultural and socio-political approaches to literacy, critical language analysis, applied linguistics and sociolinguistics, and first and second language acquisition. The programme emphasis the importance of diachronic and synchronic influences exerted by sociocultural contexts in shaping language policy, language norms and language use. In this regard, the basic objective is to examine the sociological, anthropological, philosophical and linguistic influences that shape the various approaches to the study of language and especially the study of literacy. Finally, there is a special focus on research approaches to the study of language and literacy, including critical discourse analysis, linguistic ethnography and classroom-based research.

## Structure

The following are required for the completion of the doctoral programme:

- 1) Master Degree in Language Pedagogy/Language Arts Education or in Applied Linguistics/Linguistics or in Educational Studies or in international M.A. programmes relevant to the aims and context of the proposed Ph.D. programme.
- 2) Successful completion of the following:

	ECTS
<b>5 Courses X 12 ECTS</b>	<b>60</b>
- 1 Course in Educational Research	
- 3 Content Areas/Specialization Courses	
- 1 Limited-Choice Course	
<b>Research (8 stages X 15 ECTS)</b>	<b>120</b>
<b>Comprehensive Examinations (exam in 5 courses)</b>	<b>33</b>
<b>Dissertation Stage Ia, Ib 1 X 15 ECTS</b>	<b>30</b>
<b>Dissertation Stage IIa, IIb 15 ECTS</b>	<b>30</b>
<b>Total</b>	<b>273</b>

- 3) Success in a comprehensive examination
- 4) Completion of a doctoral dissertation

	ECTS
<b>Education Research Courses</b>	<b>12</b>
One of the following:	
EDU 682 Qualitative Research in Education	12
EDU683 Education Statistics	12
EDU 684 Ethnographic Approaches in Educational Research	12
<b>Content Area/Specialization Courses</b>	<b>36</b>
Three of the following:	
EDU 520 Linguistic Ethnography	12
EDU 521 Introduction to First Language Development	12
EDU 522 Contemporary Approaches to Literacy Development	12
EDU 524 Text Linguistics-Multiliteracies	12
EDU 529 Monolingual, Bilingual, Multilingual Education: Attitudes, Trends and Perspectives	12
<b>Limited-Choice Courses</b>	<b>12</b>
One of the following:	
EDU 546 Differentiation in the Inclusive Classroom	12
EDU 550 Education and Social Exclusion	12
EDU 555 Postmodern Philosophers, Alterity and Education	12
EDU 563 Supporting Creativity in Early Childhood Education	12
EDU 611 Theory of Curriculum Development	12

## Comprehensive Examination

The main goal of the Comprehensive Examination is to evaluate the abilities of doctoral candidates to work in a holistic way on the basis of a theoretical context of language and literacy. The Comprehensive Examination consists of three distinct parts: a theoretical account of different approaches in literacy, a research-based perspective on issues concerning language and literacy and finally an applied section in which the students will need to synthesize and apply knowledge in pedagogical contexts. To be successful, the student must pass all three parts.

### Tentative Topics for the Examination

#### 1) Theoretical framework on literacy and language arts

- Language and literacy theories
- Sociocultural perspectives on literacy and literacy development (orality and literacy, literacy as a situated social practice, etc.)
- Theoretical foundation of literacy and language arts education (e.g., sociocognitive approaches, functional perspectives, genre theory, critical literacy, etc.)
- Multimodality and multiliteracies
- Sociolinguistics and literacy

#### 2) Research in Literacy and Language

- Ethnographic approaches in language and literacy research
- Discourse and critical discourse analysis
- Textual analysis

#### 3) Applied Aspects of Literacy and Language

- Language policy and language planning
- Multilingual/bilingual and bidialectal education
- Textbooks and curricula in literacy and language teaching

## Course Descriptions for Cycle B (Compulsory and Elective Courses)

The courses in this cycle aim to:

- a. Offer the necessary linguistic training that will enable educators to comprehend the processes of children's language development. Although in recent decades research in language acquisition has been developing rapidly, the study of the structural features of the language of Greek-speaking children is still in its initial stages. The relevant courses offer a sound theoretical understanding that will lead to further research and production of scientific knowledge in this area.

- b. Examine the notions of communicative competence and the various aspects of literacy in relation to contemporary sociolinguistic and anthropological approaches and the frameworks of Discourse Analysis and Text Linguistics. The aim of these courses is twofold: on the one hand to offer the necessary theoretical understanding in an area in which relevant research related to the Greek language is still emerging, and on the other hand to bridge the gap between the narrow concept of literacy offered by the current curricula and the multifaceted reality of literacy in contemporary societies, which ought to be promoted in pedagogical practice.
- c. Study a wide variety of teaching practices and methodologies, ranging from teaching the structural elements of language to teaching literature. The aim of this group of courses is the critical positioning towards the existing approaches and methodologies from both a scientific and a practical perspective.
- d. Cover the area of bilingual and multilingual education, with a twofold target: first, to offer a wider understanding of the related theoretical concepts (bilingualism, interlanguages, underlying linguistic competence); second, to provide educators with practical preparation and reinforcement to ensure both their understanding of the socio-cultural dimensions of bilingualism and their competence in deploying these effectively in a multilingual and multicultural classroom.

### Compulsory Courses

All courses are credited with 12 ECTS.

#### EDU 520 Linguistic Ethnography

In this course students are introduced to the concept of linguistic ethnography, as this has been developed in recent years from studies in the area of New Literacy, and from sociolinguistic and anthropological perspectives in the study of language. First, the relevant literature will be reviewed, starting with the anthropological perspectives on language, then moving onto the period of the 1960s when the socio-political movement of the "civil society" introduced a meta-constructive notion into the study of language, connecting language use and language variation with the social values of groups. Then, contemporary approaches to the study of language will be examined in which language is viewed as a multi-dynamic semiotic system based on the concepts of systemicity and functionality. Various studies undertaken in different socio-political contexts will be reviewed, along with several data collection and data analysis approaches that fall within the area of linguistic ethnography (e.g., discourse analysis, ethnographic observations).

#### EDU 521 Introduction to First Language Acquisition

This course examines basic aspects of children's language, with reference to the stages of linguistic and communicative development in the preschool years, and with emphasis on the mainstream approaches to children's language development, including behavioral and cognitive approaches, nativism,

connectionism and interactionism. The focus is on the acquisition of Greek L1, but there are also references and comparisons to other languages. The course examines the developmental trajectory of phonetics/phonology, morphology, syntax and semantics, as well as that of pragmatic and communicative competences as they are described in the relevant sociolinguistic theories. There is also discussion of the contribution of ethnographic and anthropological perspectives to understanding language development as a process of socialization, and a consideration of the interconnections among language, multimodal communication, and literacy.

#### EDU 522 Contemporary Approaches to Literacy Development

The course examines the processes of reading and writing development and it suggests ways of systematising the transitions (a) from pre-reading to reading skills, (b) from decoding to reading and (c) from emergent to developing literacy. The course further examines the cognitive and other skills required for the reception and production of varying genres and the sociocultural practices of communication and literacy development in children. The differences between "oral" and "literate" culture and thought are examined in detail, as are cultural differences in the role of language as a means of socialisation and integration in the school community.

### Limited-Choice Electives

All courses are credited with 9 ECTS.

#### EDU 523 The Development of Semantic, Pragmatic and Communicative Competence

This course addresses the development of semantic competence and the processes of lexical acquisition in the L1, implementing insights from structural semantics, generative and cognitive semantics, and, crucially, Theory of Mind. The structure of the vocabulary of Greek is examined in detail, as are issues of etymology, derivation, compounding and borrowing. The course also offers a critical overview of approaches to vocabulary teaching. With regard to the development of pragmatic and communicative skills in children, the course uses insights from formal-cognitive pragmatics/Relevance Theory, Discourse/Conversation Analysis and interactionism.

#### EDU 524 Text Linguistics-Multiliteracies

The course examines different approaches to text as an object of analysis and a pedagogical tool, and considers how literacy and literacy/language arts education may be redefined to address the needs of a multiliterate society. The concept and principles of textuality (cohesion, coherence, intentionality, acceptability, informativity, situationality and intertextuality) are discussed, with emphasis on the sociocognitive processes of text production and reception. The course looks critically at the constructs of genre and text type and their metalinguistic import for reception, as well as their sociolinguistic dimensions. Text is examined from a sociocultural/ sociopolitical perspective and as part of broader attempts to discourse analysis. Dominant approaches to genre and critical literacy such as the New Rhetoric, the Sidney School and the pedagogy of multiliteracies will be discussed.

### **EDU 525 Teaching the Structure of Language**

The course examines the “prehistory” and history of language pedagogy, with special emphasis on the history of education and linguistic reforms in Greece and Cyprus. Major points of convergence and divergence among grammar-centered, text-centered and ‘communicative’ approaches to language teaching are critically discussed. A functional way of teaching language structure is proposed, following an in-depth examination of synchronic text-centered or ‘communicative’ grammars, with special emphasis on functional-systemic approaches.

### **EDU 526 Teaching Literature**

This course examines the wider pedagogical principles and rationales for teaching literature in primary education; the ways in which literature teaching can be integrated in communicative teaching; the implementation of theoretical principles regarding literature through pedagogical practices. The concepts of writer-genre-reader are studied and analyzed with a focus on reader-response theory (Iser, Rosenblatt, Fish, Eco, etc.). Finally, the interaction and combination of image, music and text in teaching are examined.

### **EDU 527 Capitalising on Language Variation in Education**

This course examines the social-semiotic dimensions of language in education, particularly in relation to the stated and hidden objectives of the national curricula and the wider language policies. The role of language in promoting literacy across the various disciplines of the curriculum is studied along with the dynamics of language and learning, with a special focus on situations involving language variation such as diglossia or multilingualism. Strategies for capitalizing on language variation in education are proposed, targeting the cultivation and development of metalinguistic and metacognitive skills based on the pedagogy of (social) constructivism.

### **EDU 528 Second Language Acquisition**

This course examines bilingualism from a theoretical linguistic and a sociolinguistic perspective. Within theoretical linguistics the differences between bilingualism during the critical period and sequential bilingualism after the critical period are examined along with the concept of interlanguage. The concepts of subtractive bilingualism and semilingualism are also examined, as is the concept of common underlying language proficiency as suggested by Cummins. From a sociolinguistic perspective the attitudes of bilingual speakers, educators and language policy makers towards bilingualism and their consequences for pedagogical practices are examined.

### **EDU 529 Monolingual, Bilingual and Multilingual Education: Attitudes, Trends and Perspectives**

This course examines the various existing models of bilingual education (partial or full bilingual education, immersion, etc.). These models are evaluated both from a theoretical perspective in relation to the theory of constructivism and the associated theories proposed by Cummins, and from a practical perspective in relation to the existing policies and pedagogical practices in Greece and in Cyprus. Pedagogical methods for handling and capitalizing on the linguistic, cognitive and communicative dynamism of a bilingual/multilingual classroom are proposed.

Description of additional courses may be found under the description of corresponding programs of the department.

## **Contact Details**

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## **INTER-DEPARTMENTAL AND INTER-DISCIPLINARY SELF-FINANCED PROGRAMME IN GENDER STUDIES**

### **Programme Description**

The University of Cyprus Gender Studies postgraduate programme is offered by the Department of Education of the University of Cyprus in both Greek and English. The programme is inter-disciplinary, self-financed, and co-ordinated by the UNESCO Chair and the Centre for Gender Studies Board (as appointed). The courses for the programme are university-wide, and are offered by different departments of the University of Cyprus and by outstanding academics and researchers from around the world.

The programme is addressed to students with an accredited University degree from across the disciplines, and it seeks to combine excellence in postgraduate education, innovative research, and a critical approach, not only towards theoretical issues, but also towards more practical and concrete issues.

The Master degree can be completed in one academic year of full-time study, or in two to three academic years of part-time study, and by earning 90 credit hours of taught course-work. The Ph.D. programme can be completed in three (i.e., six semesters) to eight (i.e., 16 semesters) academic years.

The degree programmes are offered in both Greek and English.

### **Aim of the Programme**

The main aim of this programme is to equip graduates with expertise in Gender Studies, providing them with the competence and skills necessary for their employment in either the public or private sector, in executive, research and official posts where they will manage, promote and investigate gender issues through an inter-disciplinary perspective.

Moreover, the course aims to educate, train and prepare young scholars to take up a leading role in the field of Gender Studies, and to promote and develop gender issues in an innovative and creative manner across various disciplines and multiple strata of governance and policy, within the framework of democratic values, human rights and the politics of social justice.

More specifically, the programme aims to:

- Promote gender studies at a postgraduate and interdisciplinary level.
- Promote research in the field of Gender Studies.
- Support the specialized study of key texts in gender studies literature and research, as well as the study of EU and other international policy documents on the subject of gender equality.
- Integrate research on the construction of gender within its historical and social context.
- Contribute to the development of modern and up-to-date policies and policy frameworks on gender matters, through the production of related scientific research and discourse.
- Support the development and fostering of leading personalities who will be able to work on gender equality in all its dimensions and policy terrains, and promote gender issues on national and international agendas of social inclusion, economic development, legal reform and fair governance.

### Structure of the Gender Studies Master Degree

The programme is based on the ECTS (European Credit and Accumulation System) and consists of 120 ECTS which are distributed as follows:

#### OPTION A

The programme includes seven courses, two core/mandatory and five electives, and the production and submission of research work on a specific gender-related question, issue, matter or debate (mandatory). It also includes three mandatory post-graduate seminars.

Total number of credits:

2 Mandatory Courses X 12 ECTS (24 ECTS) + 5 Elective Courses X 12 ECTS (60 ECTS) + 3 Seminars X 4 ECTS (12 ECTS) + Dissertation (24 ECTS) = TOTAL 120 ECTS

#### OPTION B

The programme includes nine courses, three core/mandatory and six elective, and three mandatory post-graduate seminars (common core courses).

Total number of credits:

3 Mandatory + Specialization Courses X 12 ECTS (36 ECTS) + 6 Elective Courses X 12 ECTS (72 ECTS) + 3 Seminars X 4 ECTS (12 ECTS) = TOTAL 120 ECTS

<b>List of Core/Mandatory Courses</b>	ECTS <b>24-36</b>
GRS/ EDU 682 Qualitative Research in Education <b>or</b> GRS/ EDU 683 Educational Statistics with Applications of Statistical Packages	12
GRS 629 Feminist Theory	12
GRS 776 Queer Theory and the Study of Sexuality	12
<b>Mandatory Seminars</b>	
Student attendance at seminars is mandatory. Two seminars are core courses recommended by the Academic Advisor responsible for the programme. The third seminar will vary each semester.	
1. GRS 774 Academic Writing	4
2. GRS 775 Discourse Analysis	4
3. GRS 777 Seminar III	4
<b>Elective Courses</b>	
<b>60-72</b>	
Elective courses include: a) courses that are already offered by various departments from across the University and are also cross-listed for the Gender Studies programme (Group A); b) courses that are new and designed specifically for the Gender Studies postgraduate programme by the participating University departments and schools (Group B).	
Courses from another postgraduate programme/ department may also be considered as an alternative elective course with the approval of the student's supervisor.	
<b>Indicative List of Group A Courses</b>	
The following are courses already running in other postgraduate studies programmes at the University and may also be offered for the Gender Studies programme.	
GAL 503 Gender Theories	
GAL 580 Gender: A Reliable Category of Analysis?	
EDU 599 Gender Theories and the Politics of the Curriculum	
EDU 536 Religions and Gender	
EDU 641 Gender and Education	
SPS 514 Feminist Theory	
BMG 535 Byzantine Masculinities and Femininities	
BMG 561 The Image of Women in Byzantine Literature	
ARC 562 Portraits of Women in Byzantine Art	
<b>List of Group B Courses</b>	
GRS 601 Power, Ideology, Inequality	
GRS 602 History of Sexuality	
GRS 603 Critical Theory in Gender Studies	
GRS 604 Writing (and) Gender: Masculinity, Femininity and Beauty in Literature	
GRS 605 Psychoanalysis and Gender Theories	
GRS 606 Queer Theory and Civil Rights	
GRS 607 Men and Masculinities	
GRS 608 Femininities and Masculinities	

GRS 609 Gendered Culture and the Socio-political Context: Issues and Questions of Power, Regulation, Control, Patriarchy, Familial and Inter-familial Discrimination	
GRS 610 Gender, Media and the Production of Knowledge	
GRS 611 Body, Gender, Sex in an Inter-cultural and Comparative Perspective	
GRS 612 Performativity: Performing Gender and the Concept of Performativity in Judith Butler's Gender Trouble	
GRS 613 Gender and the Cinema	
GRS 614 Gender and Mathematics	
GRS 615 Gender and Science	
GRS 616 Gender and Biology	
GRS 617 Gender and New Technologies	
GRS 618 Gender Equality and the Law	
GRS 619 Gender Equality, Human Rights, Gender Equality and the Law	
GRS 620 Gender in Antiquity (Classic Greece) and Byzantium	
GRS 621 Gender in Education	
GRS 622 Gender and Economy	
GRS 623 Architecture and Perspectives on Gender: Place, Gender, Space	
GRS 624 "Masculinity", "Femininity", "Androgyny": Psychological Approaches to Gender Formation	
GRS 625 Work and Gender Identities: A Psychological Approach	
GRS 626 Work and Gender Identities: A Sociological Approach	
GRS 627 Violence Counselling and Gender	
GRS 628 Gender and Educational Administration	
GRS 630 European Policy and Gender	
GRS 631 Visual Sources in the Humanities and Social Sciences	
GRS 632 Contemporary Trends and Issues	
GRS 633 Gender in Archaeology	
GRS 634 Gender and Disability	
GRS 635 Sports - Women and Gender Equality	
GRS 636 Gender in Greek Literature from Antiquity to the Present	
GRS 637 Introduction to the Archaeology of Gender	
GRS 638 Museum and Gender: Presentation and Education	
GRS 639 Language and Gender	
GRS 640 Gender and Public Policy	
GRS 641 Anthropology of Gender	
GRS 642 Race, Gender and Post-colonial Feminism	
GRS 643 Feminist Political Philosophy	
GRS 644 Gender and Biopolitics	
GRS 689 Independent Course of Study	

**Mandatory Seminars** **12**

GRS 774 Seminar I Academic Writing (4 ECTS)	
GRS 775 Seminar II Discourse Analysis (4 ECTS)	
GRS 777 Seminar III (Seminar in Gender Studies, to be determined each semester) (4 ECTS)	

**Master Dissertation** **24**

GRS 798 Master Dissertation I	
GRS 799 Master Dissertation II	

## Structure of the Gender Studies Ph.D. Degree

For admission to the Ph.D. programme, the candidate is required to hold a Master degree in the same or a related subject. The Gender Studies doctoral programme requires students to successfully complete either 240 or 258 ECTS, distributed as follows:

	ECTS
• Successful completion of three to five courses	<b>36-60</b>
• Success in a comprehensive examination	<b>33</b>
• Research (8 stages X 15 ECTS)	<b>120</b>
• Doctoral dissertation (on an original topic or a topic that makes an original contribution to knowledge)	
- Dissertation Writing Ia, Ib X 15 ECTS	30
- Dissertation Writing IIa, IIb X 15 ECTS	30
<b>Total</b>	<b>249-273</b>

## List of Courses

	ECTS
GRS 820 Comprehensive Exams	33
GRS 891 Research I a, Ib X 15 ECTS	30
GRS 892 Research IIa, IIb X 15 ECTS	30
GRS 893 Research IIIa, IIIb X 15 ECTS	30
GRS 894 Research IVa, IVb X 15 ECTS	30
GRS 895 Dissertation Writing Ia, Ib X 15 ECTS	30
GRS 896 Dissertation Writing IIa, IIb X 15 ECTS	30

## Course Descriptions

Each University Department and School will add to/ select courses to teach from the list. Each course is credited with 12 ECTS.

### Mandatory Core Courses and Seminars

#### GRS 629 Feminist Theory

Study of classic and foundational feminist texts; familiarization with feminist theory; research on key issues. Theoretical background in, and contemporary theoretical approaches to, gender studies. The historical, social and individual approach to gender. Contemporary philosophical approaches to gender and feminism.

#### GRS 774 Seminar I: Academic Writing

The course is designed to introduce students to the demands and challenges of graduate study, and to topics and questions characteristic of interdisciplinary scholarship in the field of gender studies. Thus, it offers advice and guidance on academic writing style and techniques, referencing and citing sources, writing the literature review, and planning and constructing the academic work required for the Master programme. At the same time, the course examines questions appropriate to interdisciplinary work in gender studies. That is, it explores the significance of gender as a field of study, and

discusses themes and issues involved in analysis and postgraduate work, which would be specific to the particular field. As a result, the course equips students with the tools necessary to approach a topic, text, aspect of social organization, a discipline or a section of life in terms of gender, gender theory and gender-related analysis.

### **GRS 775 Seminar II: Discourse Analysis**

The course focuses on the relationship between gender and discourse and explores how gendered systems of power, social identity, and systems of knowledge and belief are constituted, reconstituted, normalized and maintained through the regulation of registers of discourse. The emergence of discourse as an analytical tool is examined with reference to different disciplines in the humanities and social sciences in order to illuminate how discourse analysis goes beyond the dichotomies of text/context, meaning/practice, intentionality/effect to explore how social practices implicate signifying acts and vice versa. The focus is on language-in-use, interpellation, the constitution of subjectivity in and through discourse, and the legitimizing force of meaning production in specific social contexts. By the end of the course, students are expected to be able to develop a critical understanding of the relationship between language (use), normalization and power and to develop a critical understanding of how gender marks discourse and encodes power.

## **Other Courses**

### **GRS 601 Power, Ideology, Inequality**

Comparative perspectives on inequality in different societies based on either a structural/synchronic or a historical approach.

### **GRS 602 History of Sexuality**

The course investigates how sex, sexualities, sexual identities, and sexual practices are talked about, silenced, contained, enabled, comprehended, regulated, enter normative fields of meaning and regulation but also open up new terrains for agency and transformation, from the 19th century to the present day (from the Victorians to Freud to EU policy documents). Through the discussion of relevant theories, critical events, discursive shifts and critical concepts in the study of gender, the course also aims to highlight the processes through which the elaboration of gender as a field of inquiry has contributed to the re-thinking of traditional analytical categories, to the development of new epistemological and methodological approaches and to the inauguration of new kinds of politics. Towards this end, the 'historicization' of gender and sexuality is related to the study of race, labour, violence, religion, economy, class, body, age, hegemony and popular culture. Many of the topics to be addressed are relevant to contemporary public debates, including controversies over censorship of pornography, sexual violence, gay and lesbian sexualities, abortion, sexually transmitted diseases, sex education, trafficking, prostitution, medically assisted reproduction, sexual [dys]function, male potency, virility, fertility, etc. Theorists to be studied include, among others, Michel Foucault, George Chauncey, Katie King, William Connolly, Thomas Laqueur, Ann Laura Stoler and Sara Ahmed.

### **GRS 603 Critical Theory in Gender Studies**

The course examines the question of gender as a question of exploitation, subjugation and emancipation by revisiting key

concepts, questions and debates in critical theory, from Marx to the Frankfurt School to contemporary theorists such as Jürgen Habermas and Seyla Benhabib. Topics to be explored include the tension between the universal human as the proper subject of philosophy and political theory and the historically gendered subject (human identified with male and humankind identified with mankind), responses to this tension (de-gendering universality, valorizing gender particularity), questions on the gendering of the inquiry on the nature of exploitation and alienation, the relation of gender to family, class, race, and culture, feminist perspectives on science and philosophy, the question of how the economy of goods has now moved into the life of emotional relations, etc. The encounter between critical theory and feminist theory is explored in the works of, among others, Patricia Williams, Patricia Hill Collins and Uma Narayan (class, race, culture), Sandra Harding, Evelyn Fox Keller and Donna Haraway (Gender, Science), Iris Marion Young and Seyla Benhabib (ethics and difference), Gender Democracy, Politics (Nancy Fraser, Susan Moler Okin, Bonnie Honig, Alexandra Halkias and Maro Panteliadou-Maloutas).

### **GRS 604 Writing (and) Gender: Masculinity, Femininity and Beauty in Literature**

The course investigates the role of gender in the history of literary genres, examines how gender consciousness mobilizes the renegotiation of theories and economies of genres, critically investigates the gender/genre intersection in texts such as consciousness raising narratives, autobiography, letter writing, travel writing, science fiction, feminist romance, lesbian fiction and other genres. The course also aims to mobilize a rereading of canonical literary texts from a gender sensitive perspective and, at the same time, aims to investigate the construction, the acts and operation of gender through literary and cultural representations. Textual practices and readings are linked to the historical, social and cultural perspective from which the texts originate, the politics of production and the subject positionalities of reception so as to problematize the discursive construction both of gender and the ways we come to experience the gendered self.

### **GRS 605 Psychoanalysis and Gender Theories**

The course explores the relationship between psychoanalytical theories and theories of gender in order to foreground the complex formation of self, identity, subjectivity and alterity. The class discussions will look at object-relations theory and why the feminist appropriation and use of this theory has become a subject of debate among feminists. Also questioned will be what psychoanalytic theory has to do with the gendering of literary studies, and whether Freud's phallogocentric theories can be redeployed by feminist critics. We will look to see if the difference between Freud and Lacan makes any difference for the feminist study of gender, and what impact has Kristeva's work had on the redefinition of feminist questions on gender and politics. The course highlights the critical reception of traditional psychoanalytic works by feminists (Juliet Mitchell, Luce Irigaray, Teresa Brennan, Kaja Silverman, Teresa de Lauretis), and also explores how more nuanced psychoanalytic approaches to subjectivity and discourse have been interpreted as opening up new possibilities for feminist theory (Judith Butler, Jane Gallop, and Elizabeth Grosz).

### **GRS 606 Queer Theory and Civil Rights**

The course traces the multiple genealogies of the category of “queer” in relation to the emergence of the modern and the normalization of modern apparatuses of social control: analyzes the contribution of feminist theory and gender studies to the critical reclaiming of queerness; explores more recent developments in theories of power, politics, and social change in order to locate social movements within complex cultural structures of power, domination and transformation. The course examines critical moments in the history of LGBT movements and social activism in order to highlight the political relevance of the resignification of public space and the innovative reclamation of political engagement and social transformation. The seminar also introduces students to social movement theory, offers a critical review of the dominant theoretical frameworks which have shaped interpretations of social activism and social movements, and stresses the relevance of gay activism for the theoretical and political reappraisal of the struggles for Civil Rights in tandem with the cultural struggles over meaning.

### **GRS 607 Men and Masculinities**

This course discusses and juxtaposes, initially, the essentialist view of masculine “identity” with postmodern feminism’s engagement with masculinity as a terrain of multiple formations that are constructed and simultaneously (re) constructed in different historical and cultural contexts. It explores how men’s lives and constructions of masculinity are affected by and influence the gendered social order, including the varied gendered constructions of violence, national identity and social risk. We will address issues such as: men’s networks, primary and secondary socialization and masculine identity construction, school as an arena of hyper (hetero) sexuality, discourses of male sexuality and fertility, male aggression and violence, the intersectionality of masculinity with multiple axes of marginality and privilege, intimacy and friendship among males, fathers and children, male body image and health, media representations of boys and men. The course debates and critically approaches the various mechanisms through which homophobic policing and misogyny establish their presence within a variety of spaces and contexts, and provides a setting to debate strategies and prospects for changing the gendered social order and men’s (as well as women’s) lives.

### **GRS 608 Femininities and Masculinities**

The course explores the meaning, nature and construction of femininities and masculinities, and how notions of femininity and masculinity operate in diverse areas to determine the roles and behaviours of men and women. Beginning with the body of theory that surrounds gender and the gendered self, the course moves on to examine masculinities and femininities as historical and conceptual constructions; that is, how they are understood historically and in terms of theory, conceptualization and analysis. The historical perspective will lead to an examination of contemporary debates and problematics surrounding gender, such as men’s movements, third wave feminism, and the involvement of men in so-called women’s causes, such as the “men against rape” initiatives. Then the course studies gender in relation to specific topics such as beauty, food and sports. Finally, consideration is given to the literary expression of gender, and to the ways in which women/ femininities and men/ masculinities are depicted in images and film.

### **GRS 609 Gendered Culture and the Socio-political Context: Issues and Questions of Power, Regulation, Control, Patriarchy, Familial and Inter-familial Discrimination**

The course will emphasize the historical, structural and comparative analysis of gendered culture and the socio-political context, based on feministic scholarship and research. Within this framework, it will also present, discuss and critically approach the research findings that highlight the intense inter-relationship between the professional choices of young people, their views on family life, and the formation of gendered identities in adolescence.

### **GRS 610 Gender, Media and the Production of Knowledge**

The course introduces students to key concepts on the power and influence of the mass media and explores the complex relationships among media images, cultural values, the development of gender identities and self-images and the trafficking of desire. The course encourages students to see themselves as products of media influence but also provides them with tools for critical viewing and deconstruction. Readings, assignments and production workshops will reflect a critical analysis of gender constructions, a nuanced understanding of the contemporary mass media environments and a more context-specific understanding of the operation of gender roles and audience reception in various media genres (these might include cartoons, the soap opera, music video, video games, talk shows, TV reality shows, etc.). Particular topics of concern include: (a) investigation of the construction of sexuality and gender by and within the Cypriot media; (b) gender and media audiences; (c) gender and new technologies.

### **GRS 611 Body, Gender, Sex in an Inter-cultural and Comparative Perspective**

This course offers an advanced exploration of the study of gender, sex and the body from a comparative and inter-cultural perspective, with particular emphasis on gender as an axis of cultural norms, values, meanings and signification processes. Drawing primarily on anthropological and ethnographic studies, the course examines how gender and gendering come to have meaning within kinship relations, politics, religion, ritual, production and reproduction, and other processes. Some of the questions to be investigated: How are gender and sexuality construed differently in different cultures? How and why did the materialization of the body, its flows, signification and control come to be demarcated as areas of cultural, ethnic and religious regulation? How do structures and institutions within different cultures reinforce and support or destabilize and empty of meaning certain gender distinctions?

### **GRS 612 Performativity: Performing Gender and the Concept of Performativity in Judith Butler’s Gender Trouble**

The course aims to analyze the performativity turn in feminist theory and its impact on the analysis of power, normativity, subjectification and agency. It includes a conceptual clarification of key terms such as performativity and performance, iteration, re-iteration and iterability, interpellation and subjectification, subversion and reification. The course elaborates how the “gender trouble” initiated by Butler is revisited and redeployed in the work of scholars such as Wendy Brown and Sara Ahmed, and also explores critical response to the emphasis on performativity and the downplaying of structural and systemic factors.

**GRS 613 Gender and the Cinema**

The course studies the filmic representation of socially conceptualized gender relations and gendered identities within varying socio-historical contexts. The course centres on, analyzes, and critically engages with the variety of discourses on the meaning of terms such as “masculinity” and “femininity”, which may co-exist even within the same filmic narrative; at the same time, it establishes the problematic that relates to the ideological assumptions of filmic narrative, and the ways these are not always unambiguous. Through the study, critical thought on, and re-consideration of, the above issues, in tandem with creative debate, the course attempts to record and compare the rigid gender regimes within a variety of socio-historical contexts, and also to comment on historical changes taking place with regard to attitudes, ways of life and beliefs, as these are reflected within filmic narratives.

**GRS 614 Gender and Mathematics**

The course looks at: gender-based differences in learning mathematics as well as in relation to beliefs and attitudes towards mathematics, and the social factors that influence them; International research output and the gender perspective on mathematics; gender and mathematics education; strategies and planning that educators can use for the development of a gender perspective in mathematical education.

**GRS 615 Gender and Science**

The course investigates gendered differences in cognitive development and performance in the sciences, and the factors that influence them, with emphasis on international research output and paradigms on the interest, participation and performance results in the natural sciences across educational levels. The course looks at strategies and planning that educators can use to address the gender aspect of natural sciences courses.

**GRS 616 Gender and Biology**

The course analyses the physiology of gender and the environment, and examines new reproductive technologies and issues and debates in bioethics.

**GRS 617 Gender and New Technologies**

The course examines issues related to gender and technologies: feminist theories on technology; gender difference in the use of information technology and the acquisition of competence and skills in information technology; study of these through an overview and analysis of international research literature; technology as masculinised culture; representations of gender, and the consequences of using gender to create and/ or reinforce sexist attitudes and conceptions.

**GRS 618 Gender, Equality and the Law**

The course examines the relationship between the law, the legal institutions and gender: the processes of gender construction through the law; analysis of the law, legal institutions and gender in relation to equality, the rule of law, and equality before the law.

**GRS 619 Gender Equality, Human Rights, Gender Equality and the Law**

The course looks at: the legal aspects of contemporary issues in gender equality; historical and contemporary approaches to

the legal aspects of gender equality; quotas, sexual harassment, trafficking. This course is an introduction to various areas of law that affect women in specific ways. It will examine laws relating to sex discrimination, employment, sexual harassment, rape and sexual assault, abortion, marriage, divorce, child custody, inheritance, pornography and prostitution. It will explore topical debates in these various areas of law and how the law can be used as a strategy to bring about social change.

**GRS 620 Gender in Antiquity (Classical Greece) and Byzantium**

The course examines the different activities and the social roles of gender in ancient Greece and Byzantium, through the use and analysis of relevant written resources, ancient findings and works of art. Special emphasis is placed on the gendered ideologies that affected the construction of social roles and ways of acting, as well as the behaviour of men, women and eunuchs, this last being considered the third sex in Byzantium. The gendered structures of ancient and medieval societies, like ancient Greece and Byzantium, reveal a historically detached scheme that enables us to understand how gendered roles affect the lives and behaviours of individuals. The determining role that the ancient Greek and Byzantine notions of gender and sexuality play in the interpretation of historical data regarding individual lives is understood through knowledge of these notions. A basic goal of the course is to help students realize that many of the ideologies and values considered important in the construction of gendered identity in modern and contemporary societies come from the past itself. In fact, the knowledge of this past facilitates a better understanding of the ways gendered differences function today.

**GRS 621 Gender in Education**

The course examines the way in which gendered and sexual identities are constructed and produced within the educational system. In particular, it studies issues such as the socialization of the two genders, gender and social class, media stereotyping, and the relationship between gender and success at school. Emphasis will also be placed on the processes of learning, organization and discipline within the school environment, which defines the acceptable and appropriate manifestations of gendered sexuality, and also on the way this gives meaning to the gendered social stratification of contemporary societies.

**GRS 622 Gender and the Economy**

This course examines issues such as participation of gendered individuals in the labour market, the relationship between pay and gender, social welfare and gender, gender and business initiative, gender within the centres of decision-making, forms of employment and their relationship to gender.

**GRS 623 Architecture and Perspectives on Gender: Place, Gender, Space**

The course investigates the gender dimension of the design, the use and the reproduction of architectural space. Questions to be raised involve the extent to which the organization and allotment of space reflect and reproduce gendered social difference/ inequality and how difference/ inequality influences the design of space. The course takes an interdisciplinary approach, employing tools from various fields, including the history of architecture and the history of world cities, social sciences, philosophy, history and the sociology of science.

#### **GRS 624 "Masculinity", "Femininity", "Androgyny": Psychological Approaches to Gender Formation**

The course introduces, presents and critically discusses the major psychological approaches to gender formation: Freudian theory, psychoanalysis post-Freud, Lacanian theory and theorization; Melanie Klein's object-relations theory; Albert Bandura's and Walter Mischel's theory of social learning; Lawrence Kohlberg's theory of cognitive development; gender schema theory; Sandra Bem's theory of psychological androgyny. Moreover, the course engages with feminist criticism that goes in tandem with theories such as the above.

#### **GRS 625 Work and Gender Identities: A Psychological Approach**

The course examines the way that gendered identities are formed and produced within the workplace. The issue is studied on the basis of the various psychological theories that relate to identity formation and the theorizing of work and the workplace.

#### **GRS 626 Work and Gender Identities: A Sociological Approach**

The course examines the way that gendered identities are formed and produced within the workplace. The issue is studied on the basis of sociological approaches to labour and work and the theorizing surrounding the workplace and work. It examines the role of gender stereotyping in the choice of profession, and also gender discrimination within the workplace. Topics of inquiry include: historical and contemporary accounts of women's participation in paid and unpaid labor; the nature of women's work through the divisions in the labour market due to gender, race, nationality, ethnicity, and class; a detailed look at occupational sex segregation, sexual harassment, the glass ceiling; the role of religion, culture, and education in determining women's opportunities and their value as workers and as family providers.

#### **GRS 627 Violence Counselling and Gender**

The course examines the multiple forms of violence as well as the causes and various effects of violence on victims and perpetrators. It also studies the role counselling can assume in the prevention of, and response to, violence, along with the forms of support that are available through counselling.

#### **GRS 628 Gender and Educational Administration**

The course examines developments and research related to gender equity in educational administration and leadership. Gender is used as a conceptual lens to investigate policies, practices, and reforms in schools and other educational settings, with particular attention on the implications for administration. The course highlights and studies the career paths of male and female school leaders and their perceptions of gender factors that affect entry and advancement in leadership. It investigates the role of gender barriers to women in school administration and the leadership styles of female administrators. Administrative gender equity issues in higher education are also discussed.

#### **GRS 630 European Policy and Gender**

The course presents, analyses and critically investigates European Union policy, including the policy of equality, the policy of positive measurements, and the gender mainstreaming policy. It employs a critical approach to the theory-practice divide.

#### **GRS 631 Visual Sources in the Humanities and Social Sciences**

During the last three decades, discussions among social scientists over the effects and nature of "visual culture" have provided original insights into how technologies and imaging systems have had profound implications for the way we create, record, manipulate, circulate, store, interpret, remember, and use information. This course aims to highlight the importance of visual sources in the humanities and social sciences, and to explain the ways in which researchers can locate, evaluate and interpret visual sources. Learning how to use a "critical visual methodology" will significantly improve students' research skills and enable them to use photographs, works of art, films, maps, advertisements to answer questions on issues of identity, human relations, power and knowledge.

#### **GRS 632 Contemporary Trends and Issues**

The course investigates contemporary trends and issues related to gender, equity, equality and gender mainstreaming in contemporary society.

#### **GRS 633 Gender in Archaeology**

The aims of the course are : a) present the theoretical framework for gender, as it has been developed in the areas of sociology, social anthropology and archaeology; b) discuss the main issues and meanings that concern archaeologists when they study the role and function of gender in ancient societies; c) explain the role of gender, age and experience in the construction and expression of social identity; d) examine the existing methodological ways of studying gender in ancient societies, and; e) present the ways in which gender has been studied with reference to archaeological examples. Through the course, students will: a) learn the basic terms and the current debates and problematic on the archaeology of gender that relate directly to the area of social sciences; b) learn the ways in which gender played a determining role in the construction of social and personal identity, and in the negotiation of social relations and relationships in prehistory; c) critically approach the proposed developmental models concerning gender that continue to formulate the interpretations of ancient societies and are associated with the progress of modern social organization; d) recognize the consequences that the study of gender has on the understanding of the socio-economical and political organization of ancient as well as contemporary societies.

#### **GRS 634 Gender and Disability**

The course presents and analyzes critical issues of gender and disability arising from the feminist perspective developed in the field of Disability Studies. The feminist approach to disability is related to issues of gender and disability, since it considers that the disabled person is traditionally oppressed by a society where decisions are made exclusively by the able-bodied (similar to the way in which traditional feminism considers that women are oppressed by a society controlled by men). The dominant themes for this course will be the understanding of issues surrounding the social construction of the notion and category of disability in relation to gender, and the basic principles developed by the major theorists on feminist approaches to disability in relation to personal experience, and how this can be utilized in politics. The personal experience of disability is examined through the interaction of different factors such as gender, age, type of disability, the individual's personal and professional life, etc. The way in which people use their experience of disability for

the political struggle is examined in different countries. The course analyzes classic and contemporary texts by disabled theorists and activists, as these encourage critical thinking on contemporary issues that are of interest to theory, research, and daily practices. For example, the position of men and women with disabilities is discussed in relation to the following issues: politics and disability (disability movements, anti-racist legislation, etc.), agents of power and oppression against persons with disabilities, representations of the disabled body, stereotypes of the disabled, perceptions of their sexuality, eugenics, sterilization, euthanasia, etc.

### **GRS 635 Sports, Women and Gender Equality**

The course addresses key issues relating to women in sports, taking into account sociological, psychological, historical, biological and other important parameters. It analyzes the influence of women in sport through their role as athletes as well as their role in decision-making at a local and international level. The course also considers the purpose and impact of official pronouncements on the topic of Women and Sport, such as those of the International Olympic Committee and the European Union, from the perspective of gender equality and feminist theory. Finally, it includes case studies of women in sports, so as to enable students to critically approach and analyze the key issues and challenges involved.

### **GRS 636 Gender in Greek Literature from Antiquity to the Present**

The primary objective of this course is to examine comparatively the representations of gender in Greek literature throughout the years, from the ancient era to our own, through contemporary theories of gender, sexuality, body, identity and performativity. Approaching literature through gender theory allows for basic literary motives and characteristics to appear. In addition, this kind of approach allows us to understand the structures of a whole literary system with a long history. Moreover, this approach shows how concretized social perceptions, preconceptions and ideologies can affect the art of discourse as well as how these can be reproduced to create modern cultures and conceptions.

### **GRS 637 Introduction to the Archaeology of Gender**

The course aims to introduce students to the study of gender as this has developed in the discipline of Archaeology in the last decades, with reference to archaeological examples from Europe and the eastern Mediterranean. Gender Archaeology is a specialist field in the Humanities and Social Sciences that contributes critically to the understanding of social organization, gender behaviour and roles in human societies. The aim of the course is to encourage the critical review of stereotypes that are used to explain social roles and behaviour in ancient societies, and to promote new analytical approaches to archaeological evidence within the framework of the Social Sciences. The study of gender in ancient societies deconstructs social stereotypes that legitimise social inequalities in modern society. At the same time it contributes to the wider fields of history and education through the promotion of new interpretations regarding gender that shape modern social awareness.

The course will present the theoretical framework for the study of gender in Archaeology and Social Anthropology with reference to the methods and archaeological evidence used or the understanding of gender in past societies.

Some of the themes covered in the course are:

- Evolutionary models, matriarchy and patriarchy
- Gender and social organization
- Theory of the Mother-Goddess
- Man the Hunter/Warrior: myths and reality
- Gender and social identity
- Gender, social roles and behavioural norms
- Embodied gender
- Gender, labour division and production
- Gender and material culture
- Funerary archaeology and gender
- Representation and gender (anthropomorphic figurines, wall paintings, etc.)
- Case studies: gender in ancient societies of the eastern Mediterranean (Aegean, Cyprus)

### **GRS 638 Museum and Gender: Presentation and Education**

The course introduces students to the theorisation that has developed recently in the field of Museum Studies regarding the presentation of gender in modern museums. In particular, in the course we will discuss the role of the museum in the way that it shapes/ can shape academic, social and educational norms (organized collections, printed material). We will explore the biases that not only influence the work of archaeologists/ museologists, but also legitimise modern social stereotypes through the manipulation of history. We will examine the ways in which gender is presented in museums today with reference to specific examples. Furthermore, we will discuss the ways that the distorted presentation of gender roles affect history/historical accounts and the perpetuation of modern social stereotypes. Finally, we will look at new approaches in Museum Studies that aim to 'free' gender subjects from modern biases, and suggest new research models in education.

Some of the themes covered in the course are:

- Museum as educational medium in modern society
- Social stereotypes and the interpretation of gender in archaeology
- The impact of archaeological interpretations in museum studies and education
- Presentation of gender in modern museums
- Case studies: gender in archaeological, folk and natural history museums
- New approaches for the presentation of gender in museums
- The use of media for the presentation of gender and educational methods
- Learning from the past

### **GRS 639 Language and Gender**

This seminar explores the role that gender plays in various disciplines, focusing on areas of language/linguistics such as phonology (intonation), morphology (values of feminine trade names), semantics (derogation of feminine terms), conversational analysis and pragmatics (politeness, insults and humor). Indeed, since the 80s, linguistics and language studies have undergone a major paradigm shift, as gender, a hitherto peripheral category in the discipline, has emerged as a pivotal area of linguistic inquiry. The result is the new discipline called Language and Gender Studies. We will first define language and then gender according to the main theoretical frameworks

structuring the field: the deficit theory (Lakoff 1975/2004), the difference theory (Tannen 1990), and the post-modern / queer theory (Hall & Bucholtz 1995; Cameron 1998 et passim). We will then investigate how gender interacts with language structure and how gender structures discourse: we will particularly emphasize the latter direction in considering both language and gender as embedded in structures of power, authority, and social inequality. Therefore, the social and cultural contexts will be considered as pivotal in giving meaning to both linguistic practices and gender categories.

#### **GRS 640 Gender and Public Policy**

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Through feminist discourse critique, social movement theory and feminist analysis of policy frames, the course explores the ways in which issues related to women and gender move into the public realm and are reflected in policy agendas. Continuities and discontinuities between different kinds of gender equality politics are also addressed (politics of difference and politics of identity; politics of recognition and/or politics of redistribution; affirmative action and equal opportunity policies; gender mainstreaming policies). In the context of the theories of gender difference, biologism and essentialism, the course examines how issues such as care, unemployment and intimate citizenship become gendered and/or de-gendered in policy agendas and policy debates, as well as how contemporary social and political legal instruments, machineries and institutions which are organized around gender differences promote or fail to promote gender equality and overturn or confirm the various gender regimes. The course focuses particularly on social problems with different and differential impact on men and women, exploring policy solutions at the international and national level, and evaluating the relative success/failure of these policies in meeting their objectives. The analysis of marginality and subjugation is based on inter-sectionality; while the overlapping influences of race, class, gender and sexual orientation on policy are reflected both in the readings and in the analytic approaches to course topics. The course allows graduate students to focus on specific policy domains: employment and unemployment; states, families and social welfare; work-family balance; gendered division of housework and care; regulation and control of women's bodies; gender based violence and harassment; abortion and reproductive rights; marriage, adoption and intimate life.

#### **GRS 641 Anthropology of Gender**

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The course explores gendered identities, relationships and meanings across a range of cultures. It examines the historical development of anthropological theories of gender from classic perspectives to the postmodern era, discusses male bias in the discipline of Anthropology, questions uses of anthropological accounts that sustain patriarchal ideologies and explains how a gender-sensitive approach destabilizes dominant trends in anthropology and opens up for analysis gendered dimensions of human life.

Major questions that will be addressed in the course include: What kinds of commonalities shape cultural understandings of masculinity and femininity? How have anthropological data been used in arguments about the universality or historical specificity of sexual inequality? How might an exploration of theories on human nature, cultural structures, power, and agency help us evaluate alternative strategies for representing 'maleness' and 'femaleness' cross-culturally? What is the contribution of feminist anthropology to both the field and

gender equality policies? Considering the relationship between gender and other relations of difference and inequality, what is the future of Gender Studies in Anthropology? How have feminist anthropologists responded to universalist claims of women's oppression? How have feminist anthropologists focused attention on gender and how has this shift of attention reshaped the field of Anthropology? What are the challenges of feminist fieldwork and feminist ethnography? How has feminist anthropology widened theoretical and methodological framings of culture, kinship, power, sexuality, incest taboo, family, cleanliness, health and sickness?

#### **GRS 642 Race, Gender and Post-Colonial Feminism**

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The main goal of the course is to integrate feminist post-colonial thought, which delves into the experiences of women particularly affected by the (post)colonial condition, with an understanding of the relevance of gender, race, sex and class in the study of colonial and imperial histories. Imperial projects have been sustained through hierarchical categorizations that marginalize colonized subjects. The course delves into the particularities of women's subaltern experiences, struggles and solidarities through an exploration of the following questions: How have (post)colonial encounters shaped gender, racial, class and sexual identities? How have women built solidarities amidst violence? How have gender, racial, class and sexual negotiations of power redefined the history of colonies, empires and the broad post-colonial world?

The course does not take (post)coloniality as a geographically and historically bound category, but rather as a reference to the unequal power relationships resulting from modern colonial-imperial interactions. The rise of post-colonial and diaspora studies has produced a new set of issues for feminist post-colonial criticism. Parallel to these issues, the course examines the meanings of transnationalism, its relationship to other concepts such as globalism and planetarity, and these concepts' impact on feminist literary and cultural studies.

#### **GRS 643 Feminist Political Philosophy**

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This module gives students the opportunity to focus and reflect on representative thinkers and key ideas in feminist political philosophy, as the course covers a wide range of schools (liberal feminism, radical feminism, analytical feminism, continental feminism), historical periods, and philosophers. We will discuss the work of such political philosophers as Christine de Pizan, Mary Wollstonecraft, J. S. Mill, Harriet Taylor Mill, Iris Marion Young, Catherine McKinnon, Carole Pateman, Martha Nussbaum, Andrea Dworkin, Anne Phillips, Virginia Held, Susan Moller Okin, and others. The module discusses and critically assesses their ideas on gender and public policy, representation, equality and difference, multiculturalism, democracy, republicanism, civic virtue and citizenship, the capabilities approach, pornography and prostitution as forms of violence against women, gender and human development, care ethics, the feminist state, equality, respect and recognition, the social contract discourse, human rights, body politics, feminist perspectives on civil society, development and the market, empowerment, justice (social and global), responsibility and inclusion.

#### **GRS 644 Gender and Biopolitics**

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The course investigates the relationship between gender and biopolitics. In his late lectures at the College de France, Foucault used the term biopolitics to refer to modes of politics

and mechanisms of population control that are exercised at the level of life as optimization. These include policies that control birth and mortality as well as systems of surveillance that monitor rates of health and disease. The course examines specific kinds of biopolitics exercised specifically on the bodies of men, women, GLBTQIA (Gay, Lesbian, Bisexual, Transgender, Questioning, Intersexed and Ally) and other groups but also examines gender itself as a technology specific to the normalizing of sexuality through the regulation of the reproductive arena and the optimization of sexual reproduction. With a focus on questions of reproduction and reproductive choice, fertility and infertility, gendered optimization of health and well-being, the course explores how a biopolitical lens reframes debates on gender and sexuality. Key questions include: What is gendered biopolitics? Is gender itself a biopolitical technology? What are some contemporary mechanisms that control reproduction and sexual health? How do these mechanisms reflect and produce health disparities across axes of race, class, and gender? How should we conceptualize choice and autonomy in regulatory, normalizing contexts? How are the incidence, diagnosis, and treatment of particular diseases (e.g., breast cancer, cardiovascular disease, eating disorders, aging) shaped by gender, race, and class? What are the conditions that lead to optimal for women, men and GLBTQIA?

#### **GRS 689 Independent Course of Study**

Aims to familiarize students with texts and research data not covered by other courses.

#### **GRS 776 Queer Theory and the Study of Sexuality**

The seminar aims to introduce students to queer theory and its relevance to the troubling of the theoretical binary of sex (as natural) vs. gender (as socially constructed), the destabilization of heteronormativity (both as a social system and as framework of normative assumption that informs the study of history and texts), the critical genealogy of the category of "normal" and the increased emphasis on the study of sexuality and sexual acts in tandem and in tension with essentialist notions of gender and identity politics. The seminar traces the theoretical roots of queer theory in poststructuralist critical theory, critical moments in the history of LGBT movements and the latter's continuities and discontinuities with other liberation movements. The seminar covers key texts by Eve Kosofsky Sedgwick, Judith Butler, Lauren Berlant and Michael Warner and recent literature.

*For additional course descriptions please refer to the relevant department(s).*

### **Contact Details**

#### **Programme Coordinator**

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Professor

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### **Research Interests of the Academic Staff**

#### **• Charalambos Charalambous, Assistant Professor**

Research focuses on: assessing/measuring the quality of teaching with emphasis on high-leverage teaching practices and the cognitive level of the tasks implemented during instruction; factors contributing to educational effectiveness, including teacher knowledge and curriculum materials and their use; quantitative and qualitative research in exploring the quality of teaching; quality of teaching and student learning.

#### **• Constantinos Christou, Professor**

Solution of mathematical problems, assessment in mathematics, the process of speeding up the comprehension of mathematical concepts, and beliefs concerning satisfactory performance in mathematics.

#### **• Miranda Christou, Assistant Professor**

The role of educational systems in shaping questions of history and collective memory, pedagogical role of media representations of human pain and suffering, education and globalization, gender and education.

#### **• Constantinos Constantinou, Professor**

The physics curriculum in secondary and tertiary education, the content of the science curriculum at the elementary level, educational technology with particular emphasis on the use of the computer as a cognitive tool and an educational medium, curriculum integration and creativity in the domain of science education.

#### **• Iliada Elia, Assistant Professor**

Mathematical problem solving, understanding of geometrical figures, the semiotic approach to learning mathematics especially in primary education, picture books and development of mathematical concepts, the role of gestures in the understanding of mathematical concepts by young children.

#### **• Stavros S. Fotiou, Professor**

Christian Education, Christian Ethics, Sociology of Christianity, Methodology of Teaching, Attitudes toward Christian Education.

#### **• Athanasios Gagatsis, Professor**

Mathematics education: Epistemological, teaching and ontogenetic obstacles in relation to the learning of mathematical concepts; mistakes in mathematics and teacher attitudes; history of mathematical education; legibility of mathematical texts; learning difficulties in mathematics.

#### **• Zelia Gregoriou, Associate Professor**

Philosophy of education (in particular, post-structuralist analysis of pedagogical discourses and educational practices; negotiation of cultural identities in educational contexts with regard to phenomena of diaspora, globalization and multiculturalism; postcolonial theory and education; theory and politics of multicultural education; performativity; mourning and/as memorialization.

#### **• Elena Ioannidou, Assistant Professor**

Language pedagogy, language education policy, bidialectalism and education, developing multicompetence through language teaching, interrelations of language and identity, multilingualism and multiculturalism in education.

• **Eleftherios Klerides, Assistant Professor**

Global Governance and International Development, European Education Policy and Reform, International Relations and Educational Transfer, Colonialism and Neo-colonialism, The Discursive Construction of Identities and Subjectivities, Education in the Mediterranean and Southeast Europe, Textbook Theory and Research, History of Education in Colonial Cyprus.

• **Stavroula Kontovourki, Assistant Professor**

Research interests include: literacy and language arts education, use of socio-cultural and post-structural theoretical approaches and qualitative research methodology for the examination of literacy development and literacy practices, the performance of literate identities in and out of school, multimodality (textual and embodied), and the realization of literacy curricula in elementary classrooms.

• **Konstantinos Korfiatis, Associate Professor**

Methodology of environmental education projects, conceptual difficulties in ecology, evaluation of learning material, conceptual change and worldview theories, history and philosophy of science with an emphasis in biological sciences.

• **Mary Ioannides-Koutselini, Professor**

Curriculum development and evaluation, teaching methodology, school textbooks, development of metacognition.

• **Leonidas Kyriakides, Professor**

School effectiveness and school improvement, baseline and value-added assessment, school self-evaluation, integrating formative and summative functions of educational evaluation, strategies for investigating construct validity.

• **Eleni Loizou, Associate Professor**

Research interests include: young children's humor and its impact on learning; involvement and empowerment of young children, teachers and parents in educational processes; language and early literacy; early childhood curriculum; infant, toddler development and practice, and teacher education.

• **Maria Eliophotou-Menon, Professor**

The use of rates of return in educational management, the influence of economic and sociological factors on the demand for higher education, factors influencing educational policy, and pre-service teachers' expectations with respect to school organization and management.

• **Demetra Pitta-Pantazi, Associate Professor**

Understanding the structure of mathematical thinking, Cognitive development of mathematical concepts, Integration of new technologies in mathematics teaching and learning, Mathematical creativity, Identification and nurturing of mathematically gifted students, Cognitive styles and mathematical abilities, Mathematics teacher education.

• **Marianna Papastephanou, Professor**

The modernism vs postmodernism debate in philosophy of education, knowledge interests and learning. Theories of subjectivity, language and culture and their application to education, social and critical theory of the Frankfurt School.

• **Stavroula Philippou, Assistant Professor**

Research interests include: Curriculum Development; Theory and Methodology of Teaching; Theory, History and Sociology of Curriculum; Teacher Professional Identity and Official Curricula; Action Research; Curriculum Studies; European Education Policy and Curriculum; National and European Identity/Citizenship in Education; Social Studies Education; Citizenship Education.

• **Helen Phtiaka, Associate Professor**

Educational legislation, policy and practice, the notion of difference in education, disability, inclusive education, globalisation.

• **Simoni Symeonidou, Assistant Professor**

History, policy and practice of inclusive education in Cyprus and in other countries, Inclusive education and the curriculum, Inclusive education pedagogy, Teacher Education for Inclusion, Disability Studies in Education, Disability Studies.

• **Niki Tsangaridou, Professor**

Reflective Teaching, Teachers' Knowledge, Teachers' Beliefs, Effective Teaching, Instructional and Curriculum Models in Physical Education.

• **Charoula Angeli-Valanides, Associate Professor**

The utilization of educational technologies in K-12, the design of computer-enhanced curricula, educational software design, teacher training, teaching methodology, online learning, and the design of learning environments for the development of thinking skills.

• **Zacharias Zacharia, Associate Professor**

The use of computer-based simulations and inquiry-based experimentation as cognitive tools in science teaching and learning, the development of computer-enhanced curriculum in science, and their promotion.

## Contact Details

### Department Secretariat

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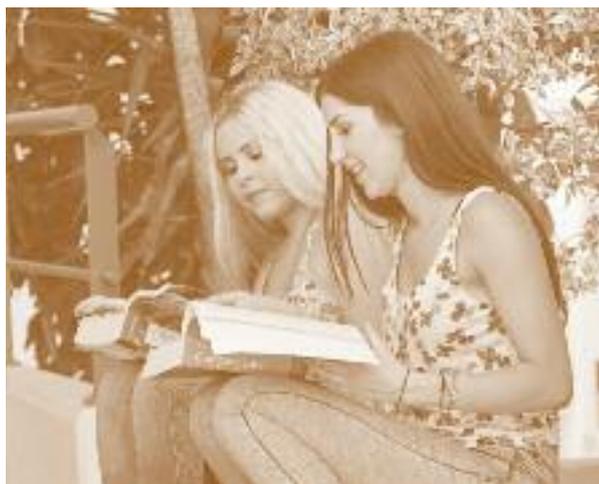
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# Department of Law



*The mission of the Department is to provide quality legal education to the students and the legal world of Cyprus. The Department of Law is pioneer in the study of Cyprus law and its development within the European context.*

*The Department offers Master of Laws.*

*The postgraduate programmes of the Department of Law are subject to approval by the Senate.*

## Introduction

The Department of Law was founded in 2006. The study of law in the Department encourages critical legal thinking, through a combination of theory, specialist knowledge and practical spirit. The Department also promotes research. Its presence in international, European and domestic research activities is already strong – especially in the fields of criminal sciences, international law, European law, and international and European private law.

## Postgraduate Studies in Law

The first postgraduate programmes in law will focus on international and European law. European integration is impacting every aspect of Member State law, highlighting the need to study the various legal systems, and to understand their relevance to Cypriot law. These programmes will also build on the concentrated strength of the Department's faculty members.

The goals of the upcoming programmes are:

- to provide advanced legal studies to the legal world of Cyprus, and the surrounding area,
- to offer specialized study of the international legal system and European integration, including their impact on the transformation of Cyprus law, and other legal systems,
- to optimize the Department's contribution to the development of Cyprus law.

## Research Interests of the Academic Staff

### • Aristotle Constantinides, Associate Professor

Law of the United Nations (with emphasis on the Security Council), International Security, International Development Cooperation, International Protection of Human Rights, International Humanitarian Law and International Criminal Law.

### • Nikitas Hatzimihail, Associate Professor

Private International Law, International Civil Litigation and Commercial Arbitration; International Business and Trade Law. Comparative Law and Intellectual Legal History (with emphasis on the western legal tradition, mixed legal systems, the law of the United States). General Principles of Private Law, Contract Law, European Private Law; Theory and Comparative History of Private Law.

• **Andreas Kapardis, Professor**

Criminology, Legal Psychology, Sentencing, Criminal Law.

• **Constantinos Kombos, Associate Professor**

EU Law (Procedural, Institutional, Substantive, Constitutional), Cypriot Constitutional Law, English Constitutional Law, Comparative Constitutional Law, European Public Law, Legal Theory and Judicial Approach.

• **Charalambos Papacharambous, Associate Professor**

International Criminal Law, International Protection of Human Rights.

• **Thomas Papadopoulos, Lecturer**

Commercial Law, Company Law and Corporate Governance, Financial Law, Capital Markets Law-Securities Regulation, Competition Law, Insolvency Law, Banking Law, European Union Law, Internal Market Law and European Economic Law.

• **Costas Paraskeva, Lecturer**

International Protection of Human Rights, Cypriot Administrative Law.

• **Tatiana-Eleni Synodinou, Associate Professor**

Private Law, Media Law, Computer Law/Internet Law, Commercial Law.

## Contact Details

### Coordinator of Postgraduate Studies

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# Department of Psychology



The Psychology Department currently offers postgraduate programmes leading to the Master degree in the areas of:

- Applied Programme in School Psychology
- Theoretical Programme in Cognitive Educational Psychology
- Theoretical Programme in Social Developmental Psychology
- School Counselling and Guidance (Joint Programme with the University of Athens)
- Cognitive Systems (Joint Programme with the Open University of Cyprus)

Students may apply for admission to one of two tracks: the research/theoretical track (Cognitive Educational or Social Developmental), which entitles them to continue their studies at Ph.D. level; the professional practice track (APSC), which allows them to register and work as professional school psychologists. For admission into the APSC track an undergraduate degree in Psychology is a requirement.

The Department also offers two doctoral programmes that result in a Doctorate of Philosophy:

- Doctorate in Psychology
- Doctorate in Clinical Psychology

## Admission Requirements

For information on the application procedure and admission requirements, please refer to the *Admission and Attendance Regulations – Application Requirements* or consult the Graduate School (tel.: 22894021/44) or the Department's Secretariat.

In addition to the general requirements, candidates are requested to submit any certificates and/or other documentation that prove fluency in the English language, and any other documentation they consider necessary to strengthen and further support their application for admission, such as articles, research reports, academic distinctions, and any other relevant information.

## APPLIED MASTER DEGREE IN SCHOOL PSYCHOLOGY

### Programme Description

The Master in School Psychology is a three-year programme comprising 180 ECTS that includes supervised clinical training (60 ECTS or 1500 hours). The programme was created based on the current professional demands and trends in the education and clinical training of professional psychologists and school psychologists. Furthermore, the programme ensures that the graduates are eligible to become licensed in Cyprus in accordance with the Cyprus Law for Professional Psychologists, and, in Europe, according to the published European Directive. The programme also gives the option for continuing graduate studies on a Doctorate level.

The programme is primarily based on the professional psychologists model of education. Consequently, it emphasizes the development of professional skills for the practice of psychology while offering a wider theoretical and research background to the graduate student. During the first year of studies, the programme aims to provide the student with the necessary theoretical and methodological background of psychological knowledge. In the second year, the programme consists of specialized coursework that will help the student develop important clinical and professional skills in the area of psychological assessment and intervention. The third and last year of the programme allows the student to integrate theory

and practice and it centers on clinical training via clinical internship practica, combined with professional seminars and graduate research. Furthermore, students who wish to gain research knowledge and skills beyond what the programme requires have the opportunity to take additional independent research with extra ECTS and complete a Master's thesis. This is recommended for students who are considering pursuing a doctoral degree in the future.

According to the Cyprus law, a school psychologist must fulfill the required qualifications (academic and clinical) in order to be included in the official registry of the Cyprus Professional Psychologists. The applied programme requires specialized skills and knowledge that enable the assessment and prevention of, and intervention in, psychological and learning problems. Furthermore, in the context of an applied programme it is expected that the graduate student will acquire the methodological knowledge and research skills required to evaluate intervention and prevention programmes. Finally, an essential part of the education of a school psychologist is the gradual development of professional skills through the supervised clinical practicum and, thus, the graduate student is required to complete at least 1500 hours of supervised clinical practicum in appropriate professional settings before graduating.

### Programme Structure

The programme comprises 2 compulsory courses and 13 elective courses each corresponding to 7.5 ECTS, a compulsory graduate research study sequence (7.5 ECTS), a clinical practicum sequence (60 ECTS) and the final comprehensive examination of professional knowledge.

	ECTS
<b>Compulsory Courses</b>	<b>15</b>
PSY 604 Multivariate Statistics for the Behavioral Sciences	7.5
PSY 705 Diagnostic Intellectual Assessment of Children and Adolescents	7.5
<b>Compulsory Clinical Practicum</b>	<b>60</b>
PSY 698 Clinical Practicum Seminar I	5
PSY 699 Clinical Practicum Seminar II	27.5
PSY 700 Clinical Practicum Seminar III	27.5
<b>Compulsory Graduate Research Study</b>	<b>7.5</b>
PSY 622 Graduate Research Study I	2.5
PSY 623 Graduate Research Study II	2.5
PSY 624 Graduate Research Study III	2.5
PSY 688 Professional Comprehensive Examination in School Psychology	0

### Elective Courses

#### I. Theoretical Background of Psychology 37.5

Five of the following courses:

PSY 601 Ethical and Professional Topics in Educational Psychology	7.5
PSY 603 Child and Adolescent Psychopharmacology	7.5
PSY 619 Intelligence: Development and Evaluation	7.5
PSY 637 Social Development and Social Settings or PSY 746 Social Psychology of Education	7.5
PSY 706 Neurophysiology	7.5
PSY 711 Psychopharmacology	7.5
PSY 715 Language Development and Language Disorders	7.5
PSY 722 Cross-Cultural Issues in Psychology	7.5
PSY 730 Neuropsychological Assessment	7.5

#### II. Psychological Evaluation Courses 22.5

Three of the following courses:

PSY 605 Psychometrics	7.5
PSY 615 Early Diagnosis and Intervention for Reading Disabilities	7.5
PSY 642 Child and Adolescent Psychopathology	7.5

#### III. Psychological Intervention Courses 37.5

Five of the following courses:

PSY 610 Psychology of Education or PSY 701 Psychology of Instruction	7.5
PSY 614 Psychological Interventions in the Schools I	7.5
PSY 617 Counselling Psychology	7.5
PSY 652 Preventative Interventions at the School	7.5
PSY 708 Analysis and Modification Behavior	7.5
PSY 713 Experimental Psychology	7.5
PSY 714 Psychological Interventions in the Schools II	7.5

### Elective Graduate Research Study

(additional to the 120 ECTS)

PSY 625 Graduate Research Study	7.5
PSY 626 Graduate Research Study	7.5
PSY 627 Graduate Research Study	7.5
PSY 749 Qualitative Research Methods in Psychology	7.5

### Supervised Clinical Practicum

During the supervised clinical practicum year, students will be placed in a public or private Psychological Centre, approved by the Department, where they can be supervised by a qualified and licensed psychologist. The clinical practicum comprises two phases. Phase one (approximately 200 hours) is a part-time placement and is completed during the fourth semester of studies concurrently with the Clinical Practicum. During this phase, students are expected to observe experienced and licensed psychologists performing their various professional activities and at the same time become familiar with the school system and the psychological methods of assessment and intervention. Phase two (approximately 1300 hours) is a full-time clinical placement taking place

during the third year of studies in parallel with the corresponding courses Clinical Practicum Seminars II (fall semester) and III (spring semester). During this phase, the student is expected to participate in case assessments and intervention programmes, as well as to engage in prevention programmes under the supervision of licensed psychologists. The supervision and development of clinical skills is an individualized process and student clinicians will have weekly meetings with their supervisor to discuss their skill development. Students will be evaluated by their supervisor, the Clinical Practicum coordinator and the Department of Psychology through Clinical Practicum Seminars I, II and III.

### Graduate Research Study/Master's Thesis

The participation in a graduate research study is required for all students in the School Psychology programme. The goal of the research participation is to help students develop skills that will allow them not only to read research critically but also to design and produce clinical research. These skills are necessary for students who wish to continue their studies at a Doctoral level. Students are required to complete 7.5 ECTS of graduate research study under the supervision of a faculty member (D.E.P.) or other research-instructive staff. The research project which must be brief (e.g., an extended case study or a small empirical research article) but of high quality (be publishable) according to the judgment of a three-member examining committee of the Department. The 7.5 required ECTS are distributed over 3 semesters so that sufficient time is allowed for the development and execution of a research proposal.

Students have the possibility to select up to 30 ECTS, of which only 7.5 are compulsory, for the completion of the Master's programme. The elaboration of a complete and extended Master's thesis is optional for students on the professional track. It requires a supervisor who is necessarily a member of D.E.P.

A full Master's thesis is carried out in two or three semesters as follows: PSY 742 Master's Thesis I (15 ECTS), PSY 743 Master's Thesis IIA (15 ECTS) and PSY 744 Master Thesis IIB (15 ECTS). In case the Thesis is not completed in the third semester, the students have to enroll in PSY 745 Continuation of Master Thesis (optional). Course PSY 742 is prerequisite for course PSY 743; course PSY 743 is prerequisite for course PSY 744. Students on the professional track who choose to complete a Master's thesis are credited with 45 ECTS (that is, they need more credits to graduate than those who do not complete a Master's thesis). The completion of a Master's thesis is recommended for students interested in continuing their studies at a Doctoral level. Students who choose to carry out a thesis will be exempt from the research study course sequence (a total of 7.5 ECTS).

### Monitoring of Progress

At the end of each year in the School Psychology programme, members of the clinical faculty (D.E.P.) of the Department, together with the Clinical Practicum Coordinator evaluate the progress of each student in the following areas: a) course performance, b) performance in the clinical practicum, c) ethical and professional conduct, d) progress and performance in research, e) personal development. The student will receive written or oral feedback on his/her progress that will include mention of the areas of strength and areas for further development.

### Portfolio

During their professional training students must create a portfolio including at least the following: a) Curriculum Vitae, b) personal statement that focuses on the process of introspection and self-criticism regarding their strengths and weaknesses and refers to their professional goals, c) three samples of psychological reports, d) two written samples of psychological intervention cases.

### PSY 688 Professional Comprehensive Examination in School Psychology

In order to graduate, students must successfully pass the professional comprehensive examination, which they may take when: (1) they have adequately completed their portfolio; (2) they have provided evidence that they have completed at least 1500 hours of supervised clinical practicum; and (3) they have fulfilled the goals of the clinical practicum as these are described in specific materials provided by the Department's Clinical Practicum Coordinator.

The examination will be given orally and on an individual basis before a three-member committee of professional psychologists. Specifically, the Committee will consist of the Clinical Practicum Coordinator, a member of the Department's faculty and an invited member. The examination aims to evaluate the professional knowledge of the students in case management and, consequently, their readiness to practice as psychologists in an ethical, legal and professional manner. The examination will be evaluated as Pass/Fail and the grade will appear on the student's transcript. In case of failure, the Department may ask the student to engage in further academic activities and/or additional supervised clinical practicum, if necessary. The student will be allowed to retake the examination up to two more times in corresponding exam periods.

**Fees:** €4.100

**Fee for supervised practicum:** €1.000\*

**Total cost of programme:** €5.100

\*In addition to the standard fees for the applied programme in School Psychology a fee of €1000 is added for the supervised clinical practicum which is utilized for acquiring supervision services from registered professional psychologists.

## Programme of Studies

	ECTS
<b>First Year</b>	
<b>Fall Semester</b>	
PSY 601 Ethical and Professional Topics in Educational Psychology	7.5
PSY 637 Social Development and Social Settings <b>or</b> PSY 722 Cross-Cultural Issues in Psychology <b>or</b> PSY 746 Social Psychology of Education	7.5
PSY 705 Diagnostic Intellectual Assessment of Children and Adolescents	7.5
PSY 716 Basic Clinical Skills	7.5
<b>Total</b>	<b>30</b>
<b>Spring Semester</b>	
PSY 603 Child and Adolescent Psychopharmacology <b>or</b> PSY 711 Psychopharmacology <b>or</b> PSY 730 Neuropsychological Assessment	7.5
PSY 604 Multivariate Statistics for the Behavioural Sciences	7.5
PSY 642 Child and Adolescent Psychopathology	7.5
PSY 701 Psychology of Instruction	7.5
<b>Total</b>	<b>30</b>
<b>Second Year</b>	
<b>Fall Semester</b>	
PSY 614 Psychological Interventions in the Schools I	7.5
PSY 615 Early Diagnosis and Intervention of Reading Disabilities	7.5
PSY 617 Counselling Psychology	7.5
PSY 619 Intelligence: Development and Education	7.5
<b>Total</b>	<b>30</b>
<b>Spring Semester</b>	
PSY 610 Psychology of Education <b>or</b> PSY 652 Preventative Interventions at the School <b>or</b> PSY 715 Language Development and Language Disorders	7.5
PSY 622 Graduate Research Study I	2.5
PSY 698 Clinical Practicum Seminar I	5
PSY 708 Analysis and Modification Behaviour	7.5
PSY 714 Psychological Interventions in the Schools II	7.5
<b>Total</b>	<b>30</b>
<b>Third Year</b>	
<b>Fall Semester</b>	
PSY 623 Graduate Research Study II	2.5
PSY 699 Clinical Practicum Seminar II	27.5
<b>Total</b>	<b>30</b>
<b>Spring Semester</b>	
PSY 624 Graduate Study III	2.5

PSY 688 Professional Comprehensive Examination in School Psychology	0
PSY 700 Clinical Practicum Seminar III	27.5
<b>Total</b>	<b>30</b>
<b>Total Compulsory Academic ECTS</b>	<b>112.5</b>
<b>Total Compulsory Applied/Clinical ECTS</b>	<b>60</b>
<b>Total Compulsory Research ECTS</b>	<b>7.5</b>

## Course Descriptions

All courses are credited with 7.5 ECTS.

### PSY 601 Ethical and Professional Topics in Educational Psychology

The psychologist's ethical code related to applied psychology will be discussed. Ethical dilemmas (double relationships, presents, confidentiality, duty to protect), and legislative issues regarding assessment, treatment and special education will be presented. Other issues include legislature regarding the profession, professional endorsement, cooperation with other professionals and organisation of Educational Psychology as a field.

### PSY 603 Child and Adolescent Psychopharmacology

Basic psychopharmacology with special emphasis on the medications that are most often prescribed to children and adolescents, their action and their consequences. Review of the neurological basis of functions such as memory, attention, and emotion with emphasis on the neurochemistry of the above functions and psychological dysfunction. Presentation of topics such as organic basis of attention difficulties, aggression, depression, eating disorders, etc., and current research on the effectiveness of psychological drugs.

### PSY 604 Multivariate Statistics for the Behavioural Sciences

The course is designed to provide an integrated, in-depth and applied approach to multivariate data analysis and linear statistical models in psychological research. The focus will be on practical issues such as selecting the appropriate measures of analysis, preparing data for analysis, performing the analysis with SPSS, interpreting output and presenting research results. This course will provide an overview of some of the most common multivariate methods, namely: exploratory factor analysis, analysis of variance and covariance, multivariate analysis of variance and covariance, multiple regression, meditation and moderation. The course will strongly emphasize the applications of multivariate methods, rather than their theoretical derivation. All multivariate procedures will be discussed with reference to research designs and interpreted in a practical manner.

### PSY 605 Psychometrics

This course is an overview of psychological tests and test construction, psychometric theories of intelligence, educational achievement, personality assessment and specific symptom assessment. It focuses on how to develop the assessment question and select the strategies and measures to answer it. The course also examines the impact of cultural diversity on assessment and identifies strategies to screen student populations for common issues, such as learning difficulties and emotional disorders. It includes topics on testing specific populations and for specific problems, and explains how test

materials are integrated with clinical interviews and other assessment data.

### **PSY 610 Psychology of Education**

This course presents the contribution that psychological research can make to educational practice and discusses relevant issues that concern classroom educators. It critically examines contemporary theories of human development and learning in order to apply this knowledge in educational settings and situations. Additionally, it examines topics such as individual differences, home/school relations and cooperation among the educational psychologist, teachers and parents.

### **PSY 614 Psychological Interventions in the Schools I**

The course will focus on contemporary, empirically validated treatments for children and families and for classroom-based interventions in collaboration with the teacher. Interventions will include psycho-educational approaches, counseling, cognitive-behavioral and other scientifically based methods, with emphasis on their specific application in the school context.

### **PSY 615 Early Diagnosis and Intervention of Reading Disabilities**

This course is offered to both Master and Doctoral students who have a strong background in learning disabilities. It addresses a number of issues including: review of recent research and literature in the field of learning disabilities; examination of research and theory as they relate to current practices; overview of psychological processes in learning to read; relationships among language processes, intellectual processes, and reading processes in beginning and skilled readers; common causes of reading disabilities and the biological or psychological etiologies associated with them; advanced research-based diagnostic assessment; and individual and group interventions for learners with such disabilities (including practice in diagnosis and treatment of case studies). Students, therefore, learn to (a) assess and identify specific reading disabilities and their implications for development and learning in the first years of life, (b) conduct assessment batteries, (c) interpret assessment findings and develop intervention plans, (d) provide remedial services for specific learning domains and practical recommendations, and (e) acquire skills in composing professional psychometric reports.

### **PSY 617 Counseling Psychology**

This course will present the major counseling theories and the corresponding methods and techniques. More specifically, the following theories are critically discussed: Psychoanalytic (Freud), Neo Freudian/egopsychological (Erikson, Adler), rational- emotive (Ellis), Transactional (Burns), Behavioural (Wolpe, Dollard & Miller), Person-centered (Rogers), Existentialist (May, Frankl) and Gestalt (Perls). Special emphasis is placed on the process of the psychological interview.

### **PSY 619 Intelligence: Development and Evaluation**

This course will inform students of the current research and theory in the area of cognitive development. Theories and models of cognitive change will be taught, as well as methods for determining conceptual change. Students will be required to study the relevant bibliography and present reports on relevant topics of the bibliography both orally and in written form. For practical experience, students will also be asked to participate in small-scale experiments with the models taught.

### **PSY 637 Social Development and Social Settings**

This course gives students an introduction to classic and contemporary theories of human development that hypothesize development as a socio-psychological process. The course includes a historical review of theories that placed the theoretical bases of the contemporary socio-genetic approach to human development, e.g., the classic theories of Mead, Baldwin, Piaget and Vygotsky. There will also be in-depth discussions about recent meta-Piagetian theories of the Geneva social school, and about meta-Vygotskian theories such as those of Bruner, Rogoff, Wertsch and Valsiner.

### **PSY 642 Child and Adolescent Psychopathology**

This course will review the most common disorders of childhood and adolescence with an emphasis on diagnostic criteria, developmental course, possible etiologies and the role of the environment in the development and maintenance of problem behaviours. Scientifically based treatments for these disorders will also be discussed.

### **PSY 652 Preventative Interventions in the School**

The course focuses on the design, implementation and evaluation of preventative programs at the school level. It will emphasize prevention of personal, interpersonal and social problems, in a way that utilizes all resources of the school system including parents, teachers and students. The course will train the students in need assessment, and the clinical methodology required to design and implement a programme, and assess its effectiveness empirically.

### **PSY 701 Psychology of Instruction**

This course is designed for graduate students in Educational Psychology who are interested in applied research and/or practice that aims to support and improve the instruction and the learning that takes place in schools. Learning is examined as a function of instructional practices in specific educational contexts and contents, and in relation to factors that have been found to influence it. Specific topics are organized into themes that include: (a) nature and conditions of classroom learning; (b) models of instruction, domain-specific instructional approaches, instructional effectiveness; (c) aptitude – treatment/method interactions; (d) alternative instructional and assessment approaches; (e) teacher knowledge and beliefs, expertise in teaching; (f) evaluation and intervention at the level of the school, the classroom, and the teacher. The course is supported by a selection of empirical articles in applied research and case studies on evaluation and intervention.

### **PSY 705 Diagnostic Intellectual Assessment of Children and Adolescents**

This course examines the administration, scoring, interpretation, and research foundations of the major individual tests of intelligence and other objective assessments of cognitive function and behavior, including observation. Emphasizes the Wechsler scales and the measurement of child and adolescent intelligence. Each student will be required to administer a certain number of complete assessments. The course also develops report-writing skills.

### **PSY 706 Neurophysiology**

Human behaviour results both from natural (biological) as well as exogenous (psycho-social) factors. This course will examine the basic structure, organization and function of the human nervous system particularly as these affect or modify behaviour.

We will specifically study the following topics: anatomy of the brain, spinal cord, peripheral nerves and muscles; structure and function of neurons; the effect of neuro-transmitters, hormones, and other endocrinological factors. We will also examine the interactions of these biological systems and their effects on behaviour. The neuro-physiological basis of specific behaviours such as sleep, reproduction, memory, aggression, communication as well as mental disorders will be studied in detail. In addition we will review current research projects and findings that relate to the above.

#### **PSY 708 Analysis and Modification Behavior**

Learning theories and their application in behavior analysis as an assessment tool for children and adolescents. Protocols of observing and documenting behavior will be taught and emphasis will be placed on methods of behavior modification based on current research and theory. Methods presented include positive and negative reinforcement, schematization, emotional control, negative thought documenting and modification.

#### **PSY 711 Psychopharmacology**

Introduction to the benefit and action of various psychotropics as they are used in the treatment of various clinical syndromes in children, teenagers, adults, and the elderly. Beginning skills for assessing the need for psychoactive medications in helping diverse patient populations, as well as their ability and side effects.

#### **PSY 713 Experimental Psychology**

This course aims to offer students advanced knowledge and practice in designing, preparing and conducting psychology experiments using computers. It will offer theoretical background on the rationale behind experimental designs, as well as in-depth knowledge of experimental designs that are widely used today in psychological research. In addition, students will be taught the basic principles of programming and they will learn how to prepare experiments with the software that is commonly used today to collect empirical data in various psychology areas. Through individual assignments and a final project, students are expected to acquire experience in all phases of conducting research using computers.

#### **PSY 714 Psychological Interventions in the Schools II**

The course will focus on contemporary, empirically validated treatments for children and families and for classroom-based interventions in collaboration with the teacher. Interventions will include psycho-educational approaches, counseling, cognitive-behavioral and other scientifically based methods, with emphasis on their specific application in the school context.

#### **PSY 715 Language Development and Language Disorders**

Human language is a dynamic and complex function. The purpose of this advanced course is to discuss the theoretical and scientific bases for language acquisition and development, and the language disorders caused by developmental, organic, and neurological etiologies. The course will cover the spectrum of ages beginning with infancy and will conclude with the aging process. Disorders like aphasia, specific language impairment, language learning disabilities, as well as language impairments resulting from brain injuries and dementia and the relationship between language, cognition, and other psychological functions will be presented. Assessment techniques and

intervention strategies based on contemporary theoretical, research, and clinical models will be included.

#### **PSY 722 Cross-Cultural Issues in Psychology**

This class identifies the need for a social psychological approach to the study of phenomena related to cross-cultural contact and communication. Students will use different theoretical paradigms and empirical evidence coming from intercultural contact zones worldwide in order to understand issues related to the psychological aspects of movement and migration. The course will first explain and discuss concepts related to nation and nationalism and will then move on to the study of psychological processes related to migration. We will then identify the challenges that people face when they are exposed to new environments, by examining processes of acculturation and focusing on issues of identity and stigma negotiation. We will discuss the challenges that societies face with migration, by referring to issues of acculturation, identity and prejudice. Finally, we will discuss of intergroup relations issues in multi-cultural societies.

#### **PSY 730 Neuropsychological Assessment**

Clinical neuropsychology focuses on the interaction between brain functioning and human behavior. The purpose of this course is to discuss neuropsychological assessment and to help the student differentiate between functional versus organic disorders. In addition, the impact of individual differences relating to intelligence, quality of education, and issues pertaining to test sensitivity and specificity will be integrated into the lectures. Neuropathologies such as Alzheimer's disease, traumatic brain injury, cerebral vascular accidents, neoplastic lesions and neuropsychiatric disorders will be discussed as they pertain to dementia, aphasia, apraxia, agnosia, amnesia, and personality disorders. The course will discuss the effects of neuropathology on neuropsychological function and will examine current clinical assessment measures used to evaluate memory, attention-concentration, language, perception, visual-spatial skills, verbal learning, and psychosocial functioning. Course prerequisites: PSY 200, PSY 706.

#### **PSY 746 Social Psychology of Education**

This course will discuss the socio-psychological bases of cross-cultural education. Students will learn the main theories on the generation and reduction of prejudice, stereotypes and discrimination, as well as their application in educational settings. There will be discussions on the phenomenon of immigration, looking at the issue from the perspectives of the minority and the majority. The course will also discuss the topic of national conflicts, as well as the role that the educational system may play in peace consolidation through the application of the discussed theories.

#### **PSY 749 Qualitative Research Methods in Psychology**

This course will introduce and familiarize students with qualitative research methods in psychology through a theoretical review and empirical applications. The course will involve the study of qualitative research projects in the areas of social, developmental, educational, cognitive and clinical psychology. The course will include study of: 1) the epistemological principles of qualitative and quantitative methodology; 2) principles and application of methods of data collection; 3) analytical theoretical models; 4) organization, management and class presentation of an original small research project.

**MASTER DEGREE IN COGNITIVE EDUCATIONAL PSYCHOLOGY**

**Introduction**

The Master's Programme in Cognitive Educational Psychology aims to prepare students to undertake productive roles in research, teaching and applied work in the fields of Cognitive and Educational Psychology. The Programme offers students a comprehensive understanding of the concepts, methods and theories related to the aforementioned cognitive areas. Candidates may hold a bachelor's degree in psychology or a related field and are interested in increasing their knowledge of cognitive and educational methodologies. The master's programme offers specialized courses in teaching and learning, cognitive systems and development, general and specialized cognitive abilities and their measuring methods, biology of learning and cognitive abilities and advanced research methodology. The programme does not lead to a professional title degree in Psychology. Instead, it leads to the expansion of knowledge in two main areas of Psychology via in-depth study of the relationships between individual differences and learning environment, individual differences and knowledge transformation. This programme of study increases the graduate's readiness to understand the role and impact of contemporary educational and cognitive psychology in the dynamic and continuously evolving school and professional environments.

**Aims of the Programme**

- To offer comprehensive knowledge in specialized issues relevant to educational and cognitive psychology, emphasizing in-depth theoretical knowledge and application.
- To increase the understanding and implementation of quantitative and qualitative methods pertaining to cognitive and educational psychology.
- To help students develop their critical skills and improve their ability to comprehend and implement key concepts of the two cognitive areas.
- To provide students with opportunities to participate in current research programmes and develop their basic research skills.
- To provide the knowledge and skills that are required to pursue a doctoral programme, a research career, or a professional career.
- To examine variables/factors contributing to the learning process, and to learn how to recognize and cope with learning difficulties exhibited by some children and adolescents.
- To study cognitive development from the perspective of individual differences in basic and higher cognitive functions.

**Fields of Research**

Spatial ability, memory and attention, intelligence, measurement of general cognitive capacity, and cognitive abilities, developmental learning disorders, pediatric and adult neuropsychology, learning and school environment, learning and cognition, knowledge acquisition and conceptual change, textual comprehension and learning, thought disorders and reasoning ability, creativity as a cognitive phenomenon.

**Laboratory Equipment**

The Department of Psychology has three fully equipped research laboratories dedicated to Cognitive and Educational research. These are: the Experimental Psychology Laboratory, the Psychophysiology Laboratory and the Neurocognitive Research Laboratory.

**Programme Description**

The programme comprises a total of 120 ECTS and includes an optional postgraduate thesis. If the student opts to write a thesis, the courses are structured as follows: the first 75 ECTS are distributed among required and elective courses, and the remaining 45 ECTS are allocated for the thesis (PSY 742, PSY 743 and PSY 744). If the student opts out of the thesis, the courses are structured in the following way: the first 97.5 ECTS are distributed among required and elective courses, and the remaining 22.5 ECTS are allocated for three required graduate research courses (PSY 625, PSY 626 and PSY 627). Both the thesis and the graduate research courses should be completed in two or three semesters. Students who successfully complete the programme may continue on to Doctoral studies (after the required application and interview).

**Programme Structure**

**PROGRAMME WITH A DISSERTATION**

	ECTS
<b>Required Courses</b>	<b>22.5</b>
PSY 604 Multivariate Statistics for the Behavioral Sciences	7.5
PSY 620 Learning and Cognition	7.5
PSY 712 Cognitive Science	7.5
<b>Thesis</b>	<b>45</b>
PSY 742 Master's Thesis I	15
PSY 743 Master's Thesis IIA	15
PSY 744 Master's Thesis IIB	15
PSY 745 Continuation of Maste's Thesis (optional)	1
PSY 745 Continuation of Master's Thesis (optional)	1
<b>Total</b>	<b>67.5</b>

**Elective Courses 52.5**

Students will select 7 courses\*\* (a total of 52.5 ECTS) from the list below:

PSY 601 Ethical and Professional Topics in Educational Psychology	7.5
PSY 602 Graduate Seminar: Advanced Issues in Psychology	7.5
PSY 605 Psychometrics	7.5
PSY 607 Memory and Executive Functions	7.5
PSY 608 Attention and Perception	7.5
PSY 609 Developmental Learning Disabilities	7.5
PSY 610 Psychology of Education	7.5
PSY 616 Mental Representations	7.5
PSY 619 Intelligence: Development and Evaluation	7.5
PSY 625 Graduate Research Study IV	7.5
PSY 626 Graduate Research Study V	7.5
PSY 627 Graduate Research Study VI	7.5
PSY 689 Independent Study	7.5
PSY 701 Psychology of Instruction	7.5
PSY 703 Modelling Cognitive Processes	7.5
PSY 706 Neurophysiology	7.5
PSY 713 Experimental Psychology	7.5
PSY 715 Language Development and Language Disorders	7.5
PSY 719 Topics in Neuroscience	7.5
PSY 731 Cognitive Neuroscience: Understanding the Biology of the Mind	7.5
PSY 746 Social Psychology of Education	7.5
PSY 749 Qualitative Research Methods in Psychology	7.5
PSY 788 Advanced Research Methods II	7.5

**PROGRAMME WITHOUT A DISSERTATION**

ECTS

**Required Courses 45**

PSY 604 Multivariate Statistics for the Behavioral Sciences	7.5
PSY 620 Learning and Cognition	7.5
PSY 712 Cognitive Science	7.5
PSY 625 Graduate Research Study IV	7.5
PSY 626 Graduate Research Study V	7.5
PSY 627 Graduate Research Study VI	7.5

**Total 45**

**Elective Courses 75**

Students will select 10 courses\*\* (a total of 75 ECTS) from the list below:

PSY 601 Ethical and Professional Topics in Educational Psychology	7.5
PSY 602 Graduate Seminar: Advanced Issues in Psychology	7.5
PSY 605 Psychometrics	7.5
PSY 607 Memory and Executive Functions	7.5
PSY 608 Attention and Perception	7.5
PSY 609 Developmental Learning Disabilities	7.5
PSY 610 Psychology of Education	7.5
PSY 616 Mental Representations	7.5

PSY 619 Intelligence: Development and Evaluation	7.5
PSY 625 Graduate Research Study IV	7.5
PSY 626 Graduate Research Study V	7.5
PSY 627 Graduate Research Study VI	7.5
PSY 689 Independent Study	7.5
PSY 701 Psychology of Instruction	7.5
PSY 703 Modelling Cognitive Processes	7.5
PSY 706 Neurophysiology	7.5
PSY 713 Experimental Psychology	7.5
PSY 715 Language Development and Language Disorders	7.5
PSY 719 Topics in Neuroscience	7.5
PSY 731 Cognitive Neuroscience: Understanding the Biology of the Mind	7.5
PSY 746 Social Psychology of Education	7.5
PSY 749 Qualitative Research Methods in Psychology	7.5
PSY 788 Advanced Research Methods II	7.5

*\*\* Courses from another Department or another Graduate Programme of the Psychology Department may qualify as an elective course with the approval of the student's supervisor.*

**Course Descriptions**

All courses are credited with 7.5 ECTS.

**PSY 601 Ethical and Professional Topics in Educational Psychology**

See course description on previous pages.

**PSY 602 Graduate Seminar: Advanced Issues in Psychology**

This is a seminar focused on in-depth examination of theory, application and research issues in Educational and Cognitive Psychology. The content will be adjusted according to the interests and specialisations of each lecturer. The goal is to have distinguished visitors or specialized scholars/scientists who will work with the Psychology Department to provide lectures for this seminar.

**PSY 604 Multivariate Statistics for the Behavioural Sciences**

See course description on previous pages..

**PSY 605 Psychometrics**

See course description on previous pages.

**PSY 607 Memory and Executive Functions**

The course focuses on various important issues in the field of human memory research. More specifically, traditional and contemporary theoretical perspectives will be analyzed, as well as the implementation of cognitive, social, neuroimaging and neuropsychological methods on memory research. Moreover, there will be discussions focused on how information is coded and recalled, the various types of memory and the use of different measuring tools for these issues. In addition, the issue of how memory loss develops, the biological changes accompanying it and therapy potential will be discussed. At a later stage, the focus will shift to the role of executive functions contributing to memory behaviors, with special reference to brain areas participating in higher cognitive functions, e.g. decision making and problem analysis.

**PSY 608 Attention and Perception**

The goal of this course is the thorough study of the nature of perceptual experience. The course will examine how the senses

are used to gather information from the world and how the brain uses sensory signals to construct interpretations of what is out there. Although research on all senses will be discussed, vision will be examined more extensively. Research findings on topics such as the perception of color, depth, shape, and motion will be reviewed from the perspective of cognitive-experimental psychology and neuroscience.

#### **PSY 609 Developmental Learning Disabilities**

This course offers comprehensive information on developmental disorders. Developmental disorders reduce the person's functioning, since they affect cognitive, motor, adjusting and social skills. Some of these disorders partly affect the person's functioning, while others seriously affect social adjustment and functioning, in such a way that supportive equipment is required. During the course, there will be discussions on the diagnostic features of specific learning difficulties, mental disorders and autism, with emphasis on intervention strategies in school.

#### **PSY 610 Psychology of Education**

See course description on previous pages.

#### **PSY 616 Mental Representations**

Knowledge representation in an intelligent system, whether it be a brain or a computer, is a major concern in the Cognitive Sciences, as it pertains to the basic functional "units" of the system. Thus, any attempt to understand and analyze the way an intelligent system functions begins with the analysis and understanding of the way information is stored and represented in the system, and of the repercussions of a particular way of knowledge representation on the function and potentialities of the system. The problem of representation is primarily an epistemological problem, and as such it has both philosophical and psychological dimensions. But it is of major interest in Artificial Intelligence (AI) as well. Since the approach to the problem from the perspective of AI draws heavily on philosophical and psychological discussions about representations, and since an introduction to the problem in the context of AI cannot succeed without an expert's knowledge of philosophy and psychology, this approach will be adopted in analyzing the problem of knowledge representation. In this context the problem of knowledge representation amounts to the following: which programming language is the most appropriate given a specific knowledge domain that the intelligent system must master?

#### **PSY 619 Intelligence: Development and Evaluation**

See course description on previous pages.

#### **PSY 620 Learning and Cognition**

The content of this course will include selected="true"="true" topics in Cognitive Psychology and Cognitive Science with an emphasis on their implications for learning. Reference will be made to cognitive structures as well as processes such as knowledge acquisition, conceptual change, transfer, induction, analogical and deductive reasoning. The primary objective is to provide the solid theoretical basis that is necessary for research in this area. Coursework will involve reading, discussions, and extending previous research.

#### **PSY 701 Psychology of Instruction**

See course description on previous pages.

#### **PSY 703 Modelling Cognitive Processes**

The course will provide students with an in-depth analysis of the methodology and the main concepts underlying the cognitive modelling approach. Students will learn how to design and evaluate computational models of the mental processes involved in attention, perception, memory, and language. By reviewing published research students will learn how computational models can inform psychological theories of cognition. Through in-class assignments they will also gain hands-on experience in the design of such models.

#### **PSY 706 Neurophysiology**

See course description on previous pages.

#### **PSY 712 Cognitive Science**

One of the most important scientific achievements of the past decades is the generation of a new research field, i.e., Cognitive Science. Cognitive Science is better understood as a wide research field, utilizing data from psychology, philosophy, linguistics, artificial intelligence and neuroscience. These research areas, although partly differentiated in the methods they use, their theories and results, are united by the convergence of the questions they ask and by their common perspective of the brain as an information processing system. Researchers in these fields have realized that they posited many common questions about the human brain nature, and that they have developed complementary and potentially cooperative research methods. The term "cognitive" refers to the functions of perception and knowledge. Consequently, cognitive science is the science of the brain. Cognitive scientists study perception, thought, memory, language comprehension, learning and other cognitive phenomena. The research methods used are numerous, and they include adults and children observation, computer programming for executing complex problems, examination of the nature of meaning and giving meaning to languages, examination of the way a brain functions etc. The aim of this course is to familiarize students with this new admirable world.

#### **PSY 713 Experimental Psychology**

See course description on previous pages.

#### **PSY 715 Language Development and Language Disorders**

See course description on previous pages.

#### **PSY 719 Topics in Neuroscience**

An important area of study in Cognitive Science is the way knowledge is represented in the brain and mind. The study of this topic requires familiarity with the basic methods of knowledge representation, such as propositional representation, semantic nets, frames, the distributed representations of neural networks, etc. To understand these methods, as well as their critical appraisal, requires knowledge of both symbolic logic and basic connectionist theory. This course will introduce students to the fundamentals of symbolic logic and connectionist theory and discuss the various means of knowledge representation.

#### **PSY 731 Cognitive Neuroscience: Understanding the Biology of the Mind**

Cognitive Neuroscience is the study of the biological underpinnings of the mind. This course is an introduction to the field and will cover a range of techniques/methods as well as demonstrate applications of those techniques to a wide array of

cognitive, social, emotional, and developmental processes. Aside from summarizing the key research and methods, the course aims to sharpen students' ability to think critically about topics in the field so they can apply such skills to their own research.

#### **PSY 746 Social Psychology of Education**

See course description on previous pages.

#### **PSY 749 Qualitative Research Methods in Psychology**

See course description on previous pages.

#### **PSY 788 Advanced Research Methods II**

Research Design, Review of Regression Analysis, Basic Functions of Structural Equation Modelling and Exploratory Factor Analysis, Confirmatory Factor Analysis (First-order CFA model, CFA models with Higher-Order factors), Multitrait-Multimethod model, The Full Latent Variable model, Growth Modelling, Multiple-Group Analyses (Testing for invariant factorial structure of a theoretical construct, Testing for invariant latent mean structure, Testing for Invariant Causal Structure), Item Response Theory, Rasch measurement models. Emphasis will be placed on application, analysis and interpretation of latent variable models analyzed with appropriate software.

## **MASTER IN SOCIAL AND DEVELOPMENTAL PSYCHOLOGY**

### **Introduction**

#### **Why Social and Developmental Psychology?**

Humans are social beings who change through the course of their development. Psychologists are interested in the study of human development and the interplay between nature and development. On the other hand, social processes typically studied in Social Psychology (intergroup relationships, interpersonal relationships, social influence, social representations, attributions of causality, cooperation and competition) have a developmental background, and consequently, to understand them requires the formulation of ontogenetic questions. "The fact that both of these approaches have a common beginning and are inspired by common interests is impressive. Through their different traditions and methodologies, a deep similarity that ties them together is generated. It is as if Social Psychology and Developmental Psychology are interested in the same subject, Social Psychology for the space, through the outer environment and Developmental Psychology for the time, through the inside environment. Thus, they constitute two views of the same science, where one tries to resolve, on a group level, the same question the other one tries to resolve on an individual level" (Moscovici, 1990).

#### **The need for a master programme in Social and Developmental Psychology in Cyprus**

Most contemporary Psychology Departments incorporate courses in Social and Developmental Psychology, because they are two of the four basic Psychology fields. Social and Developmental Psychology

can make significant contributions in countries where socio-cultural needs and problems require social sciences for their solution. A typical example, and one that is close to the Cypriot reality, is the significant growth of Social and Developmental Psychology in North Ireland and Israel during the past decades, as these are divided communities with past and present national conflicts, and therefore they face issues such as national identity, increase and decrease of prejudice. Thus, the need for local research on social developmental psychology in Cyprus is immediate, especially concerning intergroup relationships and examination of the socio-psychological parameters of inter-community relationships through a developmental perspective.

Moreover, the recent economic growth and the emphasis on information access have created organizational and educational needs where applied Social and Developmental Psychology may contribute significantly. Lastly, the application of Social and Developmental Psychology in education is very important, since it focuses on the study of psychological changes (cognitive, emotional, social) taking place from birth to late life of a person. Through observation of the developing individual, psychologists acquire knowledge that allows them to describe changes in human thought and intelligence, personality, emotional world and many other areas of a person's inner world that are shaped through the educational system.

Social and Developmental Psychology are currently considered "bridges" to other areas of psychology. Other main areas (i.e., Cognitive and Clinical) derive significant theoretical and methodological examples from Social and Developmental Psychology via the understanding of dynamic processes that shape human development and social interaction.

### **Structure and Aims of the Programme**

The programme comprises a total of 120 ECTS, and includes an optional postgraduate thesis. For students who opt to write a thesis, courses are structured as follows: the first 75 ECTS are distributed among required and elective courses, and the remaining 45 ECTS are allocated for the thesis (PSY 742, PSY 743 and PSY 744). If the student opts out of the thesis the courses are structured in the following way: the first 97.5 ECTS are distributed among required and elective courses, and the remaining 22.5 ECTS are allocated for three required postgraduate research courses (PSY 625, PSY 626 and PSY 627). Both the thesis and the postgraduate research courses should be completed in two or three semesters. Successful completion of the programme allows continuation to Doctoral studies provided the student

follows the established procedure (new application and interview).

The goals of this programme are:

- To provide theoretical and methodological training for designing, conducting and analyzing socio-psychological and developmental research.
- To facilitate the understanding of quantitative and qualitative methodological approaches.
- To facilitate the connection of theoretical and empirical questions with social and developmental problems.

Completion of the programme may lead to doctoral level studies in Social or/and Developmental Psychology. It may also lead to immediate job placements in fields where graduates' qualifications are considered useful, e.g., in organizations working on social research and market research. However, candidates seeking admission to the doctoral programmes must follow the standard application and interview process.

### Fields of Research

Students in the programme have the opportunity to participate in the following research programmes:

- Social representations of national identity
- Social representations of gender
- Greek-Cypriot and Turkish-Cypriot contact and trust development
- Inter-group relationships and teaching history
- Social construction of knowledge and cooperative learning
- Social representations of HIV/AIDS and development of prevention programmes
- Ecological consciousness and behaviour
- Driving behaviour and development of driving violence prevention programs
- Consumer behaviour and consumer attitudes
- The psychology of minority social influence
- Parental involvement and child development
- School aggression in preschool and school-age children
- Parent, child, teacher and attribution theories
- Parental style and developmental difficulties in childhood and adolescence
- Adolescence, antisocial behaviour, and substance use
- Developmental psychopathology and developmental disorders
- Emotional divergence and relevant disorders
- A systemic approach to problem resolution in school

### Laboratory Equipment

The Laboratory of Social and Developmental Psychology (LSDP) is already operational in anticipation of the needs of the Master's programme. The laboratory will support the following types of research:

- The analysis of mechanisms of social knowledge development and change through various levels of analysis of the socio-psychological reality (intra-individual, inter-individual, intergroup and representational ideological level)
- The study of small group dynamics, cooperation and competition in educational settings
- The study of the microgenesis, ontogenesis and sociogenesis of social representations
- The study of learning and cognitive development as a socio-psychological process
- The study of parents–children relationships and interactions
- The study of pre-social and antisocial behaviour between children
- The study of individual differences using neuro-psychological and developmental research methodology
- The analysis of mechanisms involved in typical and non-typical development

### Programme Description

#### PROGRAMME WITH A DISSERTATION

	ECTS
<b>Required Courses</b>	<b>75</b>
PSY 604 Multivariate Statistics for the Behavioral Sciences	7.5
PSY 630 Contemporary Theories of Human Development	7.5
PSY 637 Social Development in Social Settings	7.5
PSY 640 Social Influence and Social Representations	7.5
<b>Master's Thesis</b>	
PSY 742 Master's Thesis I	15
PSY 743 Master's Thesis IIA	15
PSY 744 Master's Thesis IIB	15
PSY 745 Continuation of Master Thesis (optional)	1
<b>Elective Courses (6 courses)</b>	<b>45</b>
PSY 602 Graduate Seminar: Advanced Issues in Psychology	7.5
PSY 610 Psychology of Education	7.5
PSY 619 Intelligence: Development and Evaluation	7.5
PSY 625 Graduate Research Study IV	7.5
PSY 626 Graduate Research Study V	7.5
PSY 627 Graduate Research Study	7.5
PSY 632 Adolescence	7.5
PSY 642 Child Adolescent Psychopathology	7.5
PSY 677 Human Aggressiveness and Antisocial Behavior	7.5

PSY 689 Independent Study	7.5
PSY 702 Discourse Communication and Social Psychology	7.5
PSY 707 Family and Child Development	7.5
PSY 715 Language Development and Language Disorders	7.5
PSY 722 Cross-Cultural Psychology	7.5
PSY 731 Cognitive Neuroscience: Understanding the Biology of the Mind	7.5
PSY 741 Intergroup Relations in Divided Societies	7.5
PSY 746 Social Psychology of Education	7.5
PSY 749 Qualitative Research Methods in Psychology	7.5
PSY 788 Advanced Research Methods II	7.5

## PROGRAMME WITHOUT A DISSERTATION

	ECTS
<b>Required Courses (7 courses)</b>	<b>52.5</b>
PSY 604 Multivariate Statistics for the Behavioral Sciences	7.5
PSY 630 Contemporary Theories of Human Development	7.5
PSY 637 Social Development in Social Settings	7.5
PSY 640 Social Influence and Social Representations	7.5
PSY 625 Graduate Research Study IV	7.5
PSY 626 Graduate Research Study V	7.5
PSY 627 Graduate Research Study VI	7.5
<b>Elective Courses (9 courses)**</b>	<b>67.5</b>
PSY 602 Graduate Seminar: Advanced Issues in Psychology	7.5
PSY 610 Psychology of Education	7.5
PSY 619 Intelligence: Development and Evaluation	7.5
PSY 632 Adolescence	7.5
PSY 642 Child Adolescent Psychopathology	7.5
PSY 677 Human Aggression and Antisocial Behavior	7.5
PSY 689 Independent Study	7.5
PSY 702 Discourse Communication and Social Psychology	7.5
PSY 707 Family and Child Development	7.5
PSY 715 Language Development and Language Disorders	7.5
PSY 722 Cross-Cultural Psychology	7.5
PSY 731 Cognitive Neuroscience: Understanding the Biology of the Mind	7.5
PSY 741 Intergroup Relations in Divided Societies	7.5
PSY 746 Social Psychology of Education	7.5
PSY 749 Qualitative Research Methods in Psychology	7.5
PSY 788 Advanced Research Methods II	7.5

\*\* A course from another Department or another Graduate Programme of the Psychology Department may qualify as an elective course with the approval of the student's supervisor.

## Course Descriptions

All courses are credited with 7.5 ECTS.

### **PSY 602 Graduate Seminar: Advanced Issues in Psychology**

See course description on previous pages.

### **PSY 604 Multivariate Statistics for the Behavioural Sciences**

See course description on previous pages.

### **PSY 610 Psychology of Education**

See course description on previous pages.

### **PSY 619 Intelligence: Development and Evaluation**

See course description on previous pages.

### **PSY 630 Contemporary Theories of Human Development**

The main theories of human development, from conception to the end of life, will be critically presented and discussed. There will also be discussions concerning intra-personal and inter-personal influences on biological, cognitive, emotional and social development.

### **PSY 632 Adolescence**

This course will cover the main theories and research on cognitive, physiological, socio-emotional, moral, and personality development during adolescence. Furthermore, we will also discuss the various problems faced by adolescents, emphasising the factors contributing to the development of problematic behaviour, including emotional, social and academic problems. The importance of discussing various psychological and other problems faced by adolescents lies in the fact that they are connected to extreme behaviors, such as suicide, criminal and aggressive behaviour.

### **PSY 637 Social Development in Social Settings**

This course will introduce students to classic and contemporary theories of human development, which consider development to be a socio-psychological process. There will be a historical review of theories that form the theoretical bases of the contemporary socio-genetic approach to human development, e.g., the classic theories of Mead, Baldwin, Piaget and Vygotsky. There will be also in-depth discussions about recent meta-Piagetian theories of the Geneva social school, and about meta-Vygotskian theories such as those of Bruner, Rogoff, Wertsch and Valsiner.

### **PSY 640 Social Influence and Social Representations**

This course will offer in-depth discussions concerning two of the most significant areas of Social Psychology: social influence and social representations. There will be discussions about the functional and the genetic model of social influence, as well as about classic and contemporary advancements in the areas of social influence and social representations. Moreover, the development of social representations of gender and national identity will be discussed. The applications of social influence and social representation theories to the fields of prevention, health psychology, advertising, communication and trade will also be discussed.

### **PSY 642 Child and Adolescent Psychopathology**

See course description on previous pages.

### **PSY 677 Human Aggression and Antisocial Behaviour**

This course will examine the phenomenon of aggressiveness, by presenting the various theories that attempt to explain it, as well as the empirical research that aims to locate its parameters. Terms such as pre-active and counteractive aggressiveness, emotional toughness and its relationship to psychopathology; family as a trigger for the development of aggressive behaviour and the development of an aggressive personality will be analyzed. There will be special reference to bullying and profiles of children involved in it (bullies, victims, aggressive victims). We

will also discuss about issues related to antisocial behaviour in general, such as substance abuse, youth violation of rules and youth criminality.

#### **PSY 702 Discourse, Communication and Social Psychology**

This course examines the ways that social psychology can facilitate an understanding of discourse as a social and communicative practice. It will examine the ways in which discourse, both written and spoken constructs, creates different social realities and is structured in order to achieve specific communicative ends. During the course, reference will be made to research that critically analyses everyday communicative discourse as well as institutional discourse (media, political). Special reference will be made to representations in the media discourse that relate to specific social and psychological issues, such as psychopathology, gender, disability, sexuality, racism and nationalism.

#### **PSY 707 Family and Child Development**

This course examines how structural and functional features of the family microsystem influence its members, especially the young, still developing members. The main theories of family development and function will be presented, with emphasis on the systemic approach. There will also be presentations and discussions on recent research targeting the interaction of intra-personal and interpersonal variables on the child's cognitive, psycho-social and personality development.

#### **PSY 715 Language Development and Language Disorders**

See course description on previous pages.

#### **PSY 722 Cross-Cultural Psychology**

See course description on previous pages.

#### **PSY 731 Cognitive Neuroscience: Understanding the Biology of the Mind**

See course description on previous pages.

#### **PSY 741 Intergroup Relations in Divided Societies**

This course will offer in-depth discussions on classic and contemporary theories of intergroup relationships. The concepts of stereotypes, prejudices and discrimination will be discussed. We will focus on the theories of Frustration-Aggression, Authoritarian Personality, Realistic Conflict, Social Identity, Contact Hypothesis, as well as recent evolutions of these theories, such as the theory of Orientation towards Social Reign, the Theory of Threats, and theories combining the Contact Theory with the Social Identity Theory. We will also discuss empirical findings and applications of these theories on the mixed education institution and on the resolution of intergroup conflicts in North Ireland, South Africa, Israel, Palestine and other places.

#### **PSY 746 Social Psychology of Education**

See course description on previous pages.

#### **PSY 749 Qualitative Research Methods in Psychology**

See course description on previous pages.

#### **PSY 788 Advanced Level Research Methods**

See course description on previous pages.

## **MASTER PROGRAMME IN SCHOOL COUNSELING AND GUIDANCE**

The Postgraduate Programme in School Counseling and Guidance is offered by the Department of Psychology at the University of Cyprus in collaboration with the National and Kapodistrian University of Athens. Successful students will earn a specialized postgraduate diploma (Master of Arts) in School Counseling and Guidance.

### **Purpose**

The programme offers postgraduate education and training in school counseling and guidance so that graduates of the programme will be able to professionally counsel (in line with the English definition of counselor) students on issues related to their personal and family life, education, and job/career options.

### **Fees**

Programme fees: €5,125

### **Duration**

The specialized postgraduate diploma requires two academic years of study, completed within a minimum of three academic semesters and a maximum of eight semesters.

### **Language of Instruction**

The language of instruction and the language required for all classroom participation and written assignments is Greek.

### **Eligibility**

The Programme is open to university graduates (B.A., B.Sc. minimum) with a degree in Psychology, any of the Education Sciences, or any subject that qualifies the holder as a secondary education teacher. All degrees must have been obtained at an accredited or recognized university.

### **Job Prospects**

The Ministry of Education and Culture and the Educational Services Committee recognize programme graduates' eligibility for appointment as counseling and vocational guidance teachers, providing they also hold any additional requisite qualifications for the position. Graduates are likewise qualified to work in such capacity in private/non-state schools and educational organizations. Finally, graduates who choose to pursue an academic career will qualify for admission to PhD programmes.

## Programme Structure

Completion of the programme requires 140 ECTS.

The programme requires completion of 12 courses (6 required courses and 6 electives), each of which corresponds to 7.5 ECTS, as well as a compulsory practicum totaling 500 hours in public or private schools which is completed over two consecutive semesters and corresponds to 20 ECTS. Finally, students are required to undertake a research project (Master's thesis), which corresponds to 30 ECTS.

Participation in lectures is mandatory. All courses take place in Cyprus. Part of the programme of study (up to 20% or a maximum of two electives, excluding the practicum) may be offered as distance learning via teleconference.

	ECTS
<b>Compulsory Courses</b>	
COU 601 Ethics in School Counseling and Guidance	7.5
COU 602 Introduction to School Counseling and Guidance	7.5
COU 605 Vocational Guidance and Counseling	7.5
COU 650 Innovation and Creativity in Education	7.5
COU 660 Educators as Professionals	7.5
COU 604 Research Methods in Education (or an equivalent course offered by the collaborating departments)	7.5
COU700 Master's Thesis I	15
COU701 Master's Thesis II	15
COU789-790 Practicum	20
<b>Elective Courses (7.5 ECTS each)</b>	
<b>Education Courses (selection of 2 courses)</b>	
COU 609 Adult Education	
COU 651 Theory and Practice of Educational Science	
COU 652 Skills Development at School	
COU 653 Technologies of Information and Communication in Education	
COU 654 Human Resource Management in Education	
COU 655 Social Education	
COU 656 Curriculum Development and Micro-teaching	
COU 657 Current Issues in Education	
COU 658 Policies of Staff Training in Education	
COU 659 Sociology of Education	
<b>Psychology and Counseling Courses (selection of 2 courses)</b>	
COU 610 Psychology of Education	
COU 611 Counseling Psychology	
COU 612 Contemporary Theories of Human Development	
COU 613 Child and Adolescent Psychopathology	
COU 714 Psychology of Instruction	
COU 615 Family and Child Development	
COU 606 Learning Difficulties	

COU 607 Prevention and Treatment of Crises in the School  
 COU 608 Intercultural Counseling and Minority Counseling  
 COU 603 Methods and Tools for Assessment and Evaluation in Counseling

### Elective Courses (7.5 ECTS each)

Two postgraduate courses (7.5 ECTS each) from a wide selection of courses offered by the collaborating departments. These may vary depending on the student's interests, and require the approval of the Academic Advisor and the consent of the Instructor.

**Total**

**140**

## Course Descriptions

All courses carry 7.5 ECTS

### COMPULSORY COURSES

#### COU 601 Ethics in School Counseling and Guidance

There is an important code of ethics and certain other criteria that are implicated in the profession of a school counselor. The course therefore examines contemporary dimensions of human behaviour in a socio-political as well as a historical context in order to give students a thorough understanding of how the ethical code features in the field of counseling and guidance. The course looks at the relevant legislation and covers ethical and professional issues usually faced by a school counselor. This course is a prerequisite for courses related to the development of clinical and professional skills (e.g., Practicum courses).

#### COU 602 Introduction to School Counseling and Guidance

This course will introduce students to the role and duties of a school counselor. The course includes a review of the relevant literature and covers the key theories and principles related to the profession of school counselor. The syllabus is tailored to educators and psychologists who are beginning their postgraduate studies in this area. The course focuses on issues related to the assistive role of the professional school counselor and the development of counseling and guidance skills.

#### COU 604 Research Methods in Education

The course focuses on study design, definition and testing of research hypotheses, procedures and measurement of variables, data collection, organization and analysis, statistical analysis (SPSS), and writing up of a scientific project.

#### COU 605 Vocational Guidance and Counseling

This course focuses on the evaluation of topics of personal and professional development such as: Lifelong career development, theories of professional orientation, process of decision making and diversity issues. The course will also give students an understanding of basic counseling tools, more specifically, the interview, individual and group counseling and the instruction of the professional guidance class. An especially important aim of the course is to familiarize students with the questionnaires for counseling and professional orientation purposes, their administration and interpretation. The course looks at various issues that might be involved in the counseling process, for example, parental counseling, people with disabilities and people from various social groups. Students must also be aware that any information they are given must be used professionally, verified by multiple sources, checked for validity and reliability and correctly utilized.

**COU 650 Innovation and Creativity in Education**

This course explores the importance of creativity and innovation in relation to topical social and educational themes. Students/prospective counselors must learn that the ability to be flexible, to be able to adapt to change, to subscribe to lifelong learning are necessary to respond to the crises and challenges of the current era.

**COU 660 Educators as Professionals**

The course discusses topics pertaining to the daily practices and routines of the educator in the school and his/her relationships with organizations and outside entities. There is an emphasis placed on the qualifications required of a successful educator to ensure a safe and effective school environment for students.

**COU 700 Master's Thesis I (15 ECTS)**

**COU 701 Master's Thesis II (15 ECTS)**

The thesis is the student's individual project, which is to be completed in two to three semesters. Students select their topic in accordance with their own area of interest.

**COU 789-790 Practicum 15 ECTS**

This course brings the student in direct contact with the workplace and places him/her in the school unit. In addition, it provides students with the opportunity to synthesize and integrate the knowledge and skills they have acquired during the program and implement them in the school environment. Thus, this course acts as a medium for the professional development of the school counselor.

**ELECTIVE COURSES**

**Psychology and Counseling Courses**

**COU 603 Assessment and Evaluation in Counseling**

The course provides an introduction to the educational and psychological methods of assessment that are most useful to school counselors. It covers the selection, administration, scoring and interpretation of a variety of tools and techniques for assessment, including standardized measures, control measures, structured interviews and systematic observation. There is a special emphasis on a specific model of problem analysis used to understand and address students' educational and behavioral difficulties and needs. Using the model, students/prospective counselors can examine educational and behavioral problems within the school context and interpret the underlying reasons. The model also offers a variety of problem solving strategies.

**COU 606 Learning Difficulties**

Students with learning difficulties tend to present deficits in five basic areas: working memory, attention, applying strategies, basic vocabulary and speech coding. Weaknesses in these areas influence learning in many ways and in many areas of the school curriculum. Students with learning difficulties need special attention and guidance in these areas, which requires that student performance levels must be defined in terms of yearly goals and monitored continuously with the aim of each student's individual development. In this course, school counselors will learn about the characteristics of students with learning difficulties and the methods of teaching and intervention which can be utilized as well as specific strategies used to enhance student performance at both an individual and the group level.

**COU 607 Prevention and Treatment of Crises in the School**

This course focuses on the design, implementation and assessment of prevention and treatment programs related to crises in the schools. Emphasis is placed on the prevention and treatment of personal, interpersonal, and social problems through programmes/processes that involve the entire school system-- the parents, educators, and students. The course teaches students how to identify the school system's needs, ways to minimize crises, and how to design programmes to successfully intervene. Finally, they will learn how to empirically evaluate the effectiveness of their interventions.

**COU 608 Intercultural Counseling and Minority Counseling**

This course will help students develop the skills, and attitudes necessary for the most effective counseling and guidance. The successful counselor must understand and support all types of people, those with different cultures, race, gender, sexual orientations, religious preferences, and those with special learning difficulties and developmental disorders. There will be a focus on developing students' awareness and alertness to the values and beliefs of various individuals in the context of a diverse society. The course teaches students how to conceptualize the way that diverse values, beliefs and traditions, forms of interaction, social circumstances and trends are related to cultural and ethnic differences. These are factors that are highly important to successful guidance and counseling.

**COU 609 Adult Education**

Adult education around the world: problems and issues. Basic theories. Strategies and educational techniques. Critical thought and art. Experiential activities. Program development for adult education. Micro-teaching and micro - learning in adult education.

**COU 610 Psychology of Education**

This course presents the important psychology research related to counseling and educational practice, and critically examines contemporary theories of human development (cognitive, ethical, social and emotional development) as well as current learning theories. The course also examines topics such as individual differences, which may occur in the above scenarios. Finally, it evaluates the relationship between family and school, the opportunities for cooperation between teachers, parents and the school board.

**COU 611 Counseling Psychology**

This course will present the major theories of Counseling Psychology and to help the student become familiar with the corresponding counseling techniques. More specifically, the following theories and methods of counseling are critically discussed: Psychoanalytic theory (Freud), Neo Freudian/ego-psychological theories (Erikson, Adler), rational-emotive (Ellis), Transactional (Burns), Behavioral (Wolpe, Dollard & Miller), Person-centered (Rogers), Existentialist (May, Frankl) and Gestalt (Perls). Special emphasis is placed on the process, theoretical and practical, of the psychological interview.

**COU 612 Contemporary Theories of Human Development**

The main theories of human development from conception to the end of life will be critically presented and discussed. There will also be discussions concerning intra-personal and inter-personal influences on biological, cognitive, emotional, and social development.

### **COU 613 Child and Adolescent Psychopathology**

This course will review the most common disorders of childhood and adolescence, with an emphasis on diagnostic criteria, the developmental course/progression, possible etiologies and the role of environmental factors in the presentation and persistence of the problem. Scientifically based treatments for these disorders will also be discussed.

### **COU 615 Family and Child Development**

This course examines the influence of structural and functional characteristics of the family microsystem on the developing child. The broader theories of development and function of the family are discussed, with particular emphasis on the systemic perspective. Current research on the interaction between intra and inter-individual variables that are related to the child's cognitive, psycho-social and personality development are also presented.

### **COU 651 Theory and Practice of Educational Science**

This course addresses the following topics: Concept and areas of Educational Science; Fields of Education; The pedagogic relationship: Features and conditions; Research methods in Educational Science; The evolution of Educational Science; Psychological development of the child and the educational process; Goals and means of teaching; Factors of teaching (family, preschool, and secondary education); Free time and education; Play; Discipline; and The pedagogical role of the educator.

### **COU 652 Skills Development at School**

Social and emotional skills. Skills and school success. Skills and didactic models. Skills and current approaches. The dynamics of groups. Ways of including social skills in teaching. The role and skills of the educator. Putting skills into practice (e.g., self-esteem, conflict resolution, empathy, self-worth). Skills and non-verbal communication. Benefits of education in socio-emotional skills.

### **COU 653 Technologies of Information and Communication in Education**

Theories of learning and Technologies of Information and Communication (TIC). Benefits of the use of TIC in the educational process. Methodology of Blended Learning. TIC tools for the development of educational themes (logistics, platforms, visual learning environment, video-conferencing, etc.). Communication tools and cooperation. Games for electronic learning. Exploiting interactive whiteboard learning. The role of TIC in the Analytic School Program.

### **COU 654 Human Resource Management in Education**

In today's post-modern world, the importance of investment in human resources in education (both private and public) is acknowledged, with the main aim of maximizing returns. Important areas covered in the course include: selection of appropriate staff, training and education, motives, increase of production, evaluation of results and current methods of stimulation for better results in education units.

### **COU 655 Social Education**

This course will examine the socio-psychological bases of the educational process. The course will discuss the most important theories related to the development and reduction of prejudice, stereotypes and discrimination and how these apply in an educational context. The phenomena of immigration as well as

that of national conflict will be discussed, in addition to the role of the educational system in establishing peace with the implementation of theories. We will discuss the role of counselors in the educational system, special education legislation, the relationship between ideology and education policy, as well as developing intervention programs in relation to intercultural education.

### **COU 656 Curriculum Development and Micro-teaching**

The course covers the design, evaluation, and revision of curriculum plans, as well as how micro-teaching (i.e., mini lessons) can be used as a vehicle to offer in-service teachers a means to improve their teaching skills. During the design and organization of the lesson plan, the educator is expected to rely on the knowledge related to micro-teaching. Students attending the course will practice the techniques of micro-teaching and design micro-lessons.

### **COU 657 Current Issues in Education**

Current Issues in Education (e.g., education of peace). Programmes in education (health education, environmental education, cultural themes, etc.). The European dimension in education. The school environment and its effect on learning. Free time and its utilization in learning. Home schooling: the teaching of the future. School Abuse and bullying. Alternative teaching strategies for students in danger. Effect of the economic situation on learning and teaching.

### **COU 658 Policies of Staff Training in Education**

In this course, the character and role of the educational staff are analyzed, including the demands implicated in the specific duties assigned to the school personnel by the State, as well as the knowledge and skills required of the different school staff members. With regard to international experience, alternative standards are analyzed by a) focusing on the organization and funding for staff training and b) looking at programs and training methods, and their connection to ideological orientations, the institutional context and the educational and societal conditions within each country.

### **COU 659 Sociology of Education**

This course examines education as a multifaceted social institution for transferring knowledge but also one that reproduces existing social, economic, and cultural structures. The course explores the development of the educational institution through the basic theories explaining the structure and, most importantly, the functions of education, as well as its relation to the broader changes in educational systems on an international level. The course also looks at the school class as a social subset and investigates the main factors involved and the relationships between these factors in the context of school action.

### **COU 714 Psychology of Instruction**

This course is designed for graduate students in the School Counseling and Guidance programme who are interested in applied research and/or practice that aims to support and improve the effectiveness of instruction and the learning that takes place in schools. Teaching of students and guidance of teachers is examined in specific educational contexts and contents, and in relation to factors that have been found to influence it. Specific topics are organized into themes that include: (a) nature and conditions of classroom learning; (b) models of instruction, domain-specific instructional approaches,

instructional effectiveness; (c) aptitude – treatment/method interactions; (d) alternative instructional and assessment approaches; (e) teacher knowledge and beliefs, expertise in teaching; (f) evaluation and intervention at the level of the school, the classroom, and the teacher.

### **MASTER OF SCIENCE PROGRAMME IN COGNITIVE SYSTEMS (Join M.Sc. Programme with the Open University of Cyprus)**

The Postgraduate Programme in Cognitive Systems is offered by the Departments of Psychology and Computer Science of the University of Cyprus in collaboration with the Open University of Cyprus. It is an interdisciplinary, distance-learning Programme that brings together two areas of studies: Cognitive Psychology and Artificial Intelligence in Computer Science. More information about the Programme (purpose, course sequence and content, student admissions, requirements, and selection criteria) is available at <http://cogsys.ouc.ac.cy>

### **PH.D. IN CLINICAL PSYCHOLOGY**

#### **Aim of the Programme**

The Doctoral Programme leads to a Doctor of Philosophy (Ph.D.) Degree in Clinical Psychology. The programme consists of three components: a) academic coursework, b) Clinical Practica, and c) the completion of a Doctoral Dissertation. The duration of the programme is four years, with a total of 320 ECTS. Graduates of the programme will be able to pursue careers in Research and Academia or clinical practice. The programme abides by the requirements of the Cyprus law for professional psychologists.

#### **Number of Entrants and Entry Process**

The Department admits about seven doctoral students each year. The positions are announced at least six months before the beginning of each academic year according to the formal procedures of the Student Services. Applications are examined by the Postgraduate Programme Committee of the Department, which submits a proposal to the Departmental Board. The decisions of the Department are implemented only after approval by the Postgraduate Committee of the University.

#### **Entry Criteria**

- A Bachelor's Degree in Psychology and a Master Degree in Psychology from accredited universities. It is preferred but not required that the Master Degree is in an applied field of Psychology.
- Student performance as indicated on the student's university transcripts.

- Minimum of three letters of recommendation (see Departmental Recommendation Form); at least two of the letters should be from former professors.
- Distinctions and special awards.
- Research participation, publications and scientific publications.
- Personal interview.

Each doctoral student will collaborate with an academic advisor who is a faculty member in the Department and who will supervise the student during his/her studies and dissertation process. The Department requires that the candidate secures the commitment of a faculty member who agrees to mentor him/her during the doctoral studies, prior to the admission interview (which is conducted as part of the admission decision process).

### **Completion of the Ph.D. Programme**

The following are required for the Ph.D. degree:

1. Successful completion of 320 ECTS, including 82.5 ECTS described above from academic courses and seminars
2. Successful performance on the Comprehensive Examination according to the internal regulations of the Department and the University
3. Successful completion of the Clinical Practicum Internships totalling a minimum of 1500 supervised clinical hours
4. Successful completion of the Clinical Knowledge and Skill Examination according to the internal regulations of the Department and the University
5. Submission and successful defense of a doctoral dissertation proposal
6. Completion and successful defense of a doctoral dissertation

### **Programme Description**

#### **I. Academic Coursework**

Students will complete eleven courses selected from the following four categories:

1. Research
2. Clinical Assessment
3. Clinical Intervention
4. Psychotherapy Seminars

Students may transfer up to three courses from their M.A. work, from categories 1, 2 & 3 (see above), provided that the course content was identical.

It is noted that a doctoral student undertaking a dissertation with a non-clinical faculty is encouraged to

complete at least one course from the other graduate programmes of the Department, based on the recommendations of his/her research and academic advisors. The course can be completed as an additional course, as a substitute for a clinical course, or in place of a course that has been credited from a previous graduate programme, based on the Department's approval. The students may submit a request for registration in such a course within 2 months from the date of admission to the programme. The request will be approved by the Department Chair.

It is expected that students will have already learned the theoretical bases of Psychology (Cognitive, Biological, Developmental, Social and Research Methods), as part of their master's programme. Therefore, these courses are not required as part of the doctoral programme's total ECTS. If a student has not attended at least one course in each of the above areas during the Master's programme, he/she must do so during doctoral studies (this is in addition to the requirements of the doctoral programme).

Ethical, Professional Development, Cross-cultural and Legislation issues will be integrated in the content of the clinical courses in order to provide a better understanding and connection of these issues pertaining to specific cases and disorders. The programme does not, therefore, include a separate course on these issues.

Students are required to pass a comprehensive examination in accordance with the University regulations, after which they can begin their doctoral dissertation. The breakdown of the academic and dissertation courses is given below.

	ECTS
<b>Research Courses</b>	<b>15</b>
Two of the following:	
PSY 788 Advanced Research Methods II <b>or</b>	
PSY 749 Qualitative Research Methods in Psychology	7.5
PSY 789 Applied Data Analysis II (Pre-requisite: PSY 604: Multivariate Statistics for the Behavioral Sciences)	7.5
PSY 790 Doctoral Seminar: Dissertation and Research Programme Development	7.5
<b>Clinical Assessment Courses</b>	<b>22.5</b>
Three of the following:	
PSY 717 Adult Psychopathology (mandatory)	7.5
PSY 705 Diagnostic Intellectual Assessment of Children and Adolescents <b>or</b>	
PSY 730 Neuropsychological Assessment	7.5
PSY 747 Diagnostic Assessment II (Personality, Emotion and Symptomatology)	7.5
<b>Clinical Intervention Courses</b>	<b>15</b>
Two of the following:	
PSY 708 Analysis and Modification Behavior	7.5
PSY 716 Basic Clinical Skills (mandatory)	7.5
PSY 733 Theories and Systems in Psychotherapy	7.5

PSY 748 Neuropsychological Rehabilitation	7.5
<b>Specific Psychotherapy Seminars</b>	<b>22.5</b>
Three of the following:	
PSY 714 Psychological Interventions in the Schools II	7.5
PSY 720 Advanced Seminar in Psychotherapy with Couples and Families	7.5
PSY 721 Seminar in Group Psychotherapy	7.5
PSY 723 Seminar on Cognitive Behavioral Therapy (mandatory)	7.5
PSY 724 Seminar in System Theory and Interventions Seminar	7.5
PSY 725 Seminar in Brief Psychotherapy Seminar	7.5
PSY 726 Specialized Seminar II: Clinical Geropsychology	7.5
PSY 727 Specialized Seminar III: Clinical Forensic Psychology	7.5
PSY 728 Advanced Seminar IV: Psychological Interventions in Health Settings	7.5
PSY 729 Advanced Seminar V: Severe Psychopathology, Diagnosis and Treatment	7.5
PSY 748 Neuropsychological Rehabilitation	7.5
<b>Final Comprehensive Exam</b>	<b>15</b>
PSY 777 Preparation for Final Exam (optional)	1
PSY 800 Final Examination	15
<b>Doctoral Dissertation</b>	<b>180</b>
PSY 869 Research Level IA	15
PSY 870 Research Level IB	15
PSY 871 Research Level IIA	15
PSY 872 Research Level IIB	15
PSY 873 Research Level III	30
PSY 874 Research Level IV	30
PSY 875 Writing Level IA	15
PSY 876 Writing Level IB	15
PSY 877 Writing Level IIA	15
PSY 878 Writing Level IIB	15
PSY 879 Writing Level III	1
PSY 880 Writing Level IV	1
PSY 881 Writing Level V	1
PSY 882 Writing Level VI	1
PSY 883 Writing Level VII	1
PSY 884 Writing Level VIII	1
PSY 885 Writing Level IX	1
PSY 886 Writing Level X	1
<b>Clinical Practicum Seminars</b>	<b>42.5</b>
PSY 734 Clinical Practicum Seminar I	10
PSY 735 Clinical Practicum Seminar II	10
PSY 736 Clinical Practicum Seminar III	11
PSY 738 Clinical Practicum Seminar IV	11.5
PSY 739 Clinical Practicum Seminar V (optional)	7.5
<i>Note: For the eleventh course, the student selects a course from the clinical intervention, assessment, or the specific psychotherapy seminars section.</i>	

## Study Terms and Conditions

The student must maintain a Grade Point Average of seven out of ten or higher, otherwise he/she will be placed on academic probation. If a student's grade remains below seven for a second semester, the case is forwarded to the Departmental Board for review and possible dismissal.

## II. Clinical Practicum

All doctoral students are required to complete at least 1500 hours of clinical practicum, according to the current legislation and the standards set by the proposed European training model for Psychologists – EuroPsy. Students who have already completed some supervised clinical practicum (that will fulfill the criteria of the Department) during their master degree in Psychology, as well as students who already are licensed psychologists, may be credited with up to 900 hours of clinical practice.

The clinical practicum can be supervised by our Department's faculty and by supervisors outside the Department, on the basis of quality standards set by the scientific literature, international practice guidelines, and our faculty's knowledge and expertise.

### PSY 737 Doctoral Examination of Clinical Knowledge and Skills (0 ECTS)

In order to graduate, doctoral students in our programme must pass a final exam on clinical knowledge and skills that will evaluate their readiness to practice independently as clinical psychologists.

Before taking the exam, students must have:

1. Successfully completed their clinical portfolio
2. Completed at least 1000 hours of supervised clinical practicum
3. Fulfilled the clinical practicum aims stipulated the Department. The final exam will be conducted individually in written form and will be scored by a two-member committee.

Should a student fail the final examination, he/she is suspended until such time that he/she retakes and passes the exam. The Department sets specific dates for the examination consistent with the length of the academic semesters. This allows students to take the examination at the same time that they complete the Clinical Practicum Seminar III. The Clinical Practicum Seminar III is scheduled according to the examination and/or the completion of the minimum 1000 hours of clinical practicum. This way students who fail the examination may resit it at a time compatible with the assessment of progress.

The examination evaluates students' clinical development and expertise in the management of clinical cases and, by extension, their ability to independently practice the profession of clinical psychology in all its contexts – ethical, legal, and professional. The examination will be evaluated in the form of Pass/Fail and the result will be validated by the Board. In case of failure, the Department may require the student to engage in further academic activities and/or additional supervised clinical practice, including re-taking of the seminar courses. In the event of a second failure, the student will not be allowed to continue her/his clinical training and, therefore, will be unable to complete the clinical, applied part of the programme.

**Fees:** €3.200

**Fee for supervised practicum:** €1.000\*

**Total cost of programme:** €4.200

*\* In addition to the standard fees for the applied PhD programme in Clinical Psychology a fee of €1000 is added for the supervised clinical practicum which is utilized for acquiring supervision services from registered professional psychologists.*

## III. Doctoral Dissertation

The procedures for conducting the doctoral dissertation are presented and explained on the Department website. The student may begin the dissertation after the successful completion of the Comprehensive Examination. The dissertation is supervised by a faculty member of the Department.

## Yearly Schedule

	ECTS
<b>First Year</b>	
<b>Fall Semester</b>	
Research Course	7.5
Clinical Assessment Course	7.5
Clinical Intervention Assessment Courses (e.g. PSY 717)*	7.5
Clinical Intervention Courses (e.g. PSY 716)*	7.5
<b>Total</b>	<b>30</b>
<b>Spring Semester</b>	
Research Course	7.5
Clinical Assessment Course	7.5
Clinical Intervention Course	7.5
PSY 869 Research Level IA	15
<b>Total</b>	<b>37.5</b>
<b>Summer Semester</b>	
PSY 870 Research Level IB	15
<b>Total</b>	<b>15</b>

## Second Year

### Fall Semester

Specific Psychotherapy Seminar (PSYCH 723)*	7.5
Specific Psychotherapy Seminar**	7.5
PSY 734 Clinical Practicum Seminar I*	10
PSY 871 Research Level IIA	15
<b>Total</b>	<b>40</b>

### Spring Semester

Specific Psychotherapy Seminar	7.5
Specific Psychotherapy Seminar **	7.5
PSY 735 Clinical Practicum Seminar II *	10
PSY 800 Final Comprehensive Exam	15
<b>Total</b>	<b>40</b>

### Summer Semester

PSY 872 Research Level IIB	15
<b>Total</b>	<b>15</b>

## Third Year

### Fall Semester

PSY 736 Clinical Practicum Seminar III *	11
PSY 873 Research Level III	30
<b>Total</b>	<b>41</b>

### Spring Semester

PSY 738 Clinical Practicum Seminar IV *	11.5
PSY 874 Research Level IV	30
<b>Total</b>	<b>41.5</b>

## Fourth Year

### Fall Semester

PSY 875 Writing Level IA	15
PSY 876 Writing Level IB	15
<b>Total</b>	<b>30</b>

### Spring Semester

PSY 877 Writing Level IIA	15
PSY 878 Writing Level IIB	15
<b>Total</b>	<b>30</b>

**Total Mandatory Academic ECTS** **97.5**

**Total Mandatory Clinical ECTS** **42.5**

**Total Mandatory Research ECTS** **180**

Note: (\*) Denotes a mandatory course; (\*\*) Denotes the possibility of choosing one elective for one of the two semesters.

## Course Descriptions

All courses are credited with 7.5 ECTS.

### PSY 705 Diagnostic Intellectual Assessment of Children and Adolescents

See course description on previous pages.

### PSY 708 Analysis and Modification of School Behavior

See course description on previous pages.

### PSY 711 Psychopharmacology

See course description on previous pages.

### PSY 714 Psychological Interventions in the School II

See course description on previous pages.

### PSY 716 Basic Clinical Skills

This course focuses on the clinical thinking and the clinical methods necessary for assessment and psychotherapy. The course reviews the theory and research that will enable students to develop clinical skills needed for interviewing, managing difficult and sensitive topics and managing clients' emotional reactions; it will also teach them insight, self-management and how to define the problem. This course covers the issues and problems involved in clinical practice and presents the process of clinical practice. Specific clinical skills will be taught, discussed and practiced throughout the semester.

### PSY 717 Adult Psychopathology

This course will review the most common disorders of adulthood, with emphasis on diagnosis and the clinical picture; the developmental process; possible etiologies; the role of biological, hereditary, environmental and other factors in the development and maintenance of the problem. Scientifically based treatments for these disorders will be discussed. Also discussed are the clinical diagnostic classifications and the criteria that separate abnormal from normal behavior.

### PSY 720 Advanced Seminar in Psychotherapy with Couples and Families

This seminar focuses on the particularities of working with families and couples. Students will become familiar with behavioral, cognitive and systemic approaches and techniques to assess and treat these groups. Students will learn to anticipate and deal with the problems that arise from the associations between the different family members, and will be taught the role of the therapist in this system. Relevant clinical skills and related ethical issues will be discussed and practiced through simulations and clinical cases.

### PSY 721 Seminar in Group Psychotherapy

The purpose of this course is to provide an introduction to group psychotherapy. Several theoretical approaches to the development of a therapy group will be considered (e.g., Behavioral, Rational-Emotive, Person-Centered, Psychoanalytic). Specifically, students will acquire knowledge pertaining to issues of forming, developing, and leading different groups. Students will acquire the skills necessary for group leadership through experiential exercises and/or group experiences.

### PSY 723 Seminar on Cognitive Behavioral Therapy

The purpose of this course is to introduce students to Cognitive-Behavioral Theory, the related research, and psychotherapy practice. It will focus on how this theoretical approach is applied to the treatment of various psychiatric and psychological difficulties and disorders. It will also address: (a) issues arising as treatment begins, such as assessment, decision-making, conceptualization, and treatment planning; (b) treatment techniques commonly used in CBT and the theories underlying them; (c) issues relating to the practice of CBT; (d) the efficacy of the approach; and (e) the benefits and limitations of identifying and using empirically supported treatment programs. The course will also introduce the "third wave" behavior therapies such as dialectical behavior therapy (DBT)

and acceptance and commitment therapy (ACT). Another objective of the course is to encourage students to think critically about their clinical work, and to do the same for the research literature that is related to this work. At the completion of the course, students should be competent in understanding, explaining, critically evaluating, teaching, and applying the philosophy. They should also be aware of the advantages and limitations, the research and the techniques of CBT, as well as the empirical approach to therapy. This course will consist of a mix of lectures, class discussion, videos, demonstrations, role plays, and student presentations.

#### **PSY 724 System Theory and Interventions Seminar**

Review of the various system models as they apply to psychological intervention. Emphasis will be placed on the family system, the couple system, groups, and organizational systems. Systemic thinking in relation to individual mental health problems, interpersonal difficulties, and intergroup conflict will be developed. Emphasis will be placed on developing students' ability to consider contextual factors (e.g., cultural, social, familial, work, school).

#### **PSY 725 Brief Psychotherapy Seminar**

Review of the different brief therapy models. Definition of the clinical problem and solution focused interventions for individual mental health problems and couple distress. Development of skills for brief psychotherapy treatment will be achieved through structured discussions, experiential learning, case studies, and role playing. This course is expected to further develop the students' knowledge and skills in basic psychotherapy.

#### **PSY 726 Specialized Seminar II: Clinical Geropsychology**

This course examines the psychological and health aspects of ageing. It covers normal/healthy ageing, and in addition, it presents research, assessment and intervention strategies regarding typical problems of aging that arise in clinical practice. Information is presented within a framework that emphasises the interplay among biological, psychological and social factors and the way these impact the aging person's functioning. The role of the family will be explored in treatment programmes that plan for problems likely to be faced in later stages of life. Clinical skills will be developed throughout the semester via taking on geropsychological cases at practicum sites as well as through guided discussion, case study, and video case review.

#### **PSY 727 Advanced Seminar III: Clinical Forensic Psychology**

This seminar will train students to apply their clinical knowledge and skills in forensic settings. The course will first address the theories pertaining to aggression, criminality and antisocial behavior. The main focus, however, will be in working with these challenging populations; specifically focusing on the role of the Clinical Psychologist as an expert witness, and on the psychologist's assessment of suspects, witnesses and victims through clinical interviews, cognitive and personality tests and other methods. Students will also study intervention methods with perpetrators and victims of violence through simulations and studies of clinical cases. Ethical issues that arise in the forensic context will also be discussed.

#### **PSY 728 Psychological Interventions in Health Settings**

Health Psychology is the interdisciplinary field concerned with the development and integration of behavioral, psychosocial, and biomedical science knowledge, theory, and techniques

relevant to the understanding of health and illness, and the application of this knowledge and these techniques to prevention, diagnosis, treatment, and rehabilitation. Behavioral medicine is the clinical or application branch of health psychology. Thus, behavioral medicine is a sub-specialty of both health psychology and clinical psychology, or the field where clinical psychology and health psychology merge. This class will cover a range of topics that are relevant to health psychology and behavioral medicine. In particular, it will examine basic psychological processes that influence health and illness including, but not limited to, perceived control, stress, behavioral conditioning, factors that influence behavioral change, self-efficacy and social support. It will also examine specific behaviors, illnesses, and physical conditions that are part of the behavioral medicine domain such as obesity, smoking, cancer, HIV, and hypertension. This course will focus on the interventions used in the field of clinical health psychology. Specific emphasis is placed on learning the skills associated with delivering cognitive behavioral psychotherapy in the health care setting. These interventions will focus on both behavioral health (i.e., psychiatric) outcomes as well as health-related behaviors such as medication adherence. In this course students will spend significant time learning the details of these interventions through observation of role-play and videotaped interventions, and practicing specific interventions through clinical case studies and role-play exercises.

#### **PSY 729 Specialized Seminar V: Severe Psychopathology, Diagnosis and Treatment**

Review of theory, research, and intervention for psychotic personality and other severe disorders. Emphasis will mainly be on adult severe psychopathology. Understanding of the development and maintenance of the psychopathology will be explored through theory and research. A bio-psychosocial framework will be applied to the understanding of severe psychopathology. Assessment and psychotherapy skills will be developed in the areas of suicidal and homicidal ideation. Empirically validated interventions and the importance of multidisciplinary treatment for severe psychopathology will be introduced. Methods used to develop the students' clinical skills include simultaneous therapy with clients with severe psychopathology at practicum sites, guided discussion, demonstration, and experiential learning that emphasizes skills training and practice.

#### **PSY 730 Neuropsychological Assessment**

Clinical neuropsychology focuses on the interaction between brain functioning and human behavior. The purpose of this course is to discuss neuropsychological assessment and to help the student differentiate between functional versus organic disorders. In addition, the impact of individual differences relating to intelligence, quality of education, and issues pertaining to test sensitivity and specificity will be integrated into the lectures. Neuropathologies such as Alzheimer's disease, traumatic brain injury, cerebral vascular accidents, neoplastic lesions and neuropsychiatric disorders will be discussed as they pertain to dementia, aphasia, apraxias, agnosias, amnesias, and personality disorders. The course will discuss the effects of neuropathology on neuropsychological function and will implement current clinical and valid assessment measures used to measure memory, attention-concentration, language, perception, visual-spatial skills, verbal learning, and psychosocial functioning. Course prerequisites: PSY 200, PSY 706.

**PSY 733 Theories and Systems in Psychotherapy (compulsory)**

This course serves as an introduction to the various theoretical orientations that inform psychotherapy. Psychodynamic, Cognitive, Behavioral and other models will be discussed. Discussions will focus on how each model conceptualizes the etiology of psychopathology, how each model proceeds to diagnosis and the basic methods each model uses in treatment. Through this introduction students will have access to a wide range of therapy tools that they can utilize in their clinical practice. They will also be able to select the theoretical approach that best suits them and which they can study in greater depth during their clinical internship.

- PSY 734 Clinical Practicum Seminar I (10 ECTS)**
- PSY 735 Clinical Practicum Seminar II (10 ECTS)**
- PSY 736 Clinical Practicum Seminar III (11 ECTS)**
- PSY 738 Clinical Practicum Seminar IV (11.5 ECTS)**
- PSY 739 Clinical Practicum Seminar V (7.5 ECTS) – OPTIONAL**

Various clinical topics are covered. The seminars will be devoted to discussion of clinical cases assigned to students through practicum sites. Professional issues in clinical psychology and students' professional development will be discussed. Enrollment is required for 4 semesters during practicum training at the community and the University of Cyprus' premises.

**PSY 747 Diagnostic Assessment II (Personality, Emotion and Symptomatology)**

This course aims to educate students in the methods used to assess personality and in the use of diagnostic tests and symptom-specific instruments. After a general introduction to the various methods used in personality assessment, emphasis will be placed on the administration and interpretation of widely used tests like the MMPI and NEO-FFI. Students will also acquire experience in the use of structured and semi-structured clinical interviews for purposes of diagnosis and in the use of symptom-specific tests to identify dysfunction in emotional and behavioral processes.

**PSY 748 Neuropsychological Rehabilitation**

This course is sequential to the course on neuropsychological assessment (PSY 730). Students will learn how to interpret assessment findings in order to develop a neuropsychological profile and therapeutic goals for neuropsychological rehabilitation. The course will discuss prominent theories of neuropsychological rehabilitation and evidence-based therapeutic methods and treatment techniques for the rehabilitation of neuropsychological disorders including memory, attention-concentration, perception, organization and categorization, language, and psychosocial disorders. Course prerequisites: PSY 730, PSY 706.

**PSY 749 Qualitative Research Methods in Psychology**

See course description on previous pages.

**PSY 788 Advanced Research Methods**

See course description on previous pages.

**PSY 789 Applied Data Analysis**

The course is designed to provide an integrated, in-depth approach to data analysis in psychological science research. An emphasis is placed on applied data analysis and accurate conceptualisation, rather than statistical theory. Readings and in-class discussions will focus on theoretical and practical issues involved in the conception, implementation, and evaluation of

empirical research in psychology. The course revolves around two themes, research methodology and applied statistics.

Course topics include experimentation, quasi-experimentation, participant observation, case studies, surveys, interviews and clinical trial implementation. These methodologies are presented and discussed in parallel with related statistical techniques so that students will be able to resolve questions related to study design, and also apply and evaluate different kinds of psychological investigations.

**PSY 790 Doctoral Seminar: Dissertation Development and Proposal Development for Research Programmes**

The aim of this course is to help students develop their dissertation and learn how to prepare a research proposal suitable for funding. The course will have a seminar format where students can express and develop ideas related to their theses, as well as describe their problems and ask questions in order to receive feedback from the instructor and from the rest of the participants in the group.

**PH.D. IN PSYCHOLOGY**

**Programme Structure**

The doctoral programme leads to a Doctor of Philosophy (Ph.D.) Degree. Applications are accepted from students who have already earned a Master's Degree in Psychology or related field. The doctoral degree consists of a minimum of 240 ECTS, which include the completion of six academic courses corresponding to 45 ECTS (7.5 ECTS each). Students are required to pass a comprehensive examination during the 5th semester of their studies, after which they may begin their doctoral dissertation. The breakdown of the academic and dissertation courses are given below.

	ECTS
<b>I. Academic Coursework</b>	
<b>Required Courses</b>	<b>22.5</b>
Three of the following courses:	
PSY 788 Advanced Research Methods II <b>or</b>	
PSY 749 Qualitative Research Methods in Psychology	7.5
PSY 789 Applied Data Analysis II (Prerequisite: PSY 604: Multivariate Statistics for the Behavioral Sciences)	7.5
PSY 790 Doctoral Seminar: Dissertation and Research Programme Development	7.5
<b>Elective Courses</b>	<b>30</b>
Four of the following courses:	
PSY 706 Neurophysiology	7.5
PSY 707 Family and Child Development	7.5
PSY 710 Advanced Seminar in Psychology	7.5
PSY 711 Psychopharmacology	7.5
PSY 712 Cognitive Science	7.5
PSY 713 Experimental Psychology	7.5
PSY 715 Language Development and Language Disorders	7.5
PSY 718 Psychology of Reading	7.5

PSY 719 Topics in Neuroscience	7.5
PSY 722 Cross-Cultural Issues in Psychology	7.5
PSY 730 Neuropsychological Assessment	7.5
PSY 731 Cognitive Neuroscience: Understanding the Biology of the Mind	7.5
PSY 741 Intergroup Relationships in Divided Societies	7.5
PSY 746 Social Psychology of Education	7.5
<b>Elective Course</b>	<b>7.5</b>
Select 1 of the elective list courses or one from another postgraduate course in the department.	

<b>II. Comprehensive Examination and Doctoral Dissertation</b>	
PSY 777 Preparation for Final Exam (optional)	(1)
PSY 800 Comprehensive Examination	15

### Doctoral Dissertation (180 ECTS)

The procedures for conducting the doctoral dissertation are presented and explained on the Department website. The dissertation may not be started until the successful completion of the Comprehensive Examination and it is supervised by a Department faculty member.

	ECTS
PSY 869 Research Level IA	15
PSY 870 Research Level IB	15
PSY 871 Research Level IIA	15
PSY 872 Research Level IIB	15
PSY 873 Research Level III	30
PSY 874 Research Level IV	30
PSY 875 Writing Level IA	15
PSY 876 Writing Level IB	15
PSY 877 Writing Level IIA	15
PSY 878 Writing Level IIB	15
PSY 879 Writing Level III	1
PSY 880 Writing Level IV	1
PSY 881 Writing Level V	1
PSY 882 Writing Level VI	1
PSY 883 Writing Level VII	1
PSY 884 Writing Level VIII	1
PSY 885 Writing Level IX	1
PSY 886 Writing Level X	1
Eight Academic Courses (X 7.5 ECTS)	60
Comprehensive Examination	15
Research Levels	120
Dissertation Writing Levels	60
<b>Total</b>	<b>255</b>

### Number of Entrants and Entry Process

The Department admits about five doctoral students each year. The positions are announced at least six months before the beginning of each academic year according to the formal procedures of the Student Services. Applications are examined by the Postgraduate Programme Committee of the Department, which submits a proposal to the Departmental Board. The decisions of

the Department are implemented only after approval by the Postgraduate Committee of the University.

Each doctoral student will be assigned an academic advisor who is a faculty member in the Department and who will supervise the student during his/her studies and dissertation process. The Department requires that the candidate secure the commitment of a faculty member who agrees to mentor him/her during the doctoral studies, prior to the admission interview (which is conducted as part of the admission decision process).

### Entry Criteria

- Master's degree from an accredited institution.
- Student performance as indicated on university transcripts. Special weight is given to grades in related courses.
- Minimum of three letters of recommendation (see Departmental Recommendation Form); at least 2 of the letters should be from former professors.
- Distinctions and special awards.
- Research participation, publications and scientific publications.
- Personal interview.

### Completion of the Ph.D. Programme

The following are required for the Ph.D. degree:

1. Successful completion of 240 ECTS including the 45 ECTS of academic coursework described above.
2. Successful performance on the Comprehensive Examination according to the internal regulations of the Department and the University.
3. Submission and successful defence of a doctoral dissertation proposal.
4. Completion and successful defence of a doctoral dissertation.

### Study Terms and Conditions

The student must maintain a Grade Point Average of seven out of ten or higher, otherwise he/she will be placed on academic probation. If a student's grade remains below seven for a second semester, the case is forwarded to the Departmental Board for review and possible dismissal.

### Course Descriptions

All courses are credited with 7.5 ECTS.

#### PSY 706 Neurophysiology

See course description on previous pages.

#### PSY 707 Family and Child Development

See course description on previous pages.

### **PSY 710 Advanced Seminar in Psychology**

This course allows an in-depth review and analysis of research and issues on specific advanced topics in the areas of cognitive, developmental, and educational psychology. Students will also be given the opportunity to pursue a research topic in greater depth.

### **PSY 711 Psychopharmacology**

See course description on previous pages.

### **PSY 712 Cognitive Science**

See course description on previous pages.

### **PSY 713 Experimental Psychology**

See course description on previous pages.

### **PSY 715 Language Development and Language Disorders**

See course description on previous pages.

### **PSY 718 Psychology of Reading**

Overview of psychological research investigating the perceptual and cognitive processes that occur during reading. Emphasis is placed on the mental representations that support reading (general conceptual knowledge, linguistic knowledge and skill) and that result from the comprehension of text (referential representation, text model). In addition, topics such as reading ability and its measurement and learning from text, are also examined.

*Prerequisites for the master programme: Cognitive Science, Learning and Cognition.*

### **PSY 719 Topics in Neuroscience**

See course description on previous pages.

### **PSY 722 Cross-Cultural Issues in Psychology**

See course description on previous pages.

### **PSY 730 Neuropsychological Assessment**

See course description on previous pages.

### **PSY 731 Cognitive Neuroscience: Understanding the Biology of the Mind**

See course description on previous pages.

### **PSY 741 Intergroup Relationships in Divided Communities**

See course description on previous pages.

### **PSY 746 Social Psychology of Education**

See course description on previous pages.

### **PSY 788 Advanced Research Methods II**

See course description on previous pages.

### **PSY 789 Applied Data Analysis II**

See course description on previous pages.

### **PSY 790 Doctoral Seminar Dissertation and Research Programme Development**

See course description on previous pages.

## **Research Interests of the Academic Staff**

### **• Marios Avraamides, Associate Professor**

Organisation of spatial memory, spatial updating and orientation, ego motion perception, Reasoning in Virtual Environments.

### **• Fofi Constantinidou, Professor**

Neuroscience of language and cognition, effects of acquired neurological disorders on cognition, clinical trials on the effectiveness of rehabilitation programs in patients with acquired neurocognitive disorders.

### **• Irene - Anna Diakidoy, Associate Professor**

Comprehension and learning from text, Knowledge acquisition and conceptual change, creativity.

### **• Kostas Fantis, Assistant Professor**

Social and emotional development, Developmental psychopathology, Risk and protective processes, Development of different types of psychopathology (e.g., Attention Deficit Hyperactivity Disorder and Conduct disorder), Desensitization to media violence.

### **• Stelios N. Georgiou, Professor**

Development in context, application of the systems theory, parental involvement, achievement attributions by parents and teachers.

### **• Irimi Kadianaki, Assistant Professor**

Social psychological dimensions of immigration (i.e. issues of identity, dealing with stigma, otherness, citizenship). Social representations of migration, sexual orientation, mental health/illness, disability and identity of people belonging to stigmatised groups (people diagnosed with mental illness, disability, LGBT individuals). Qualitative methodology.

### **• Maria Karekla, Assistant Professor**

Interface between anxiety-related disorders and behavioural medicine; Investigation of individual difference and other factors in the development, maintenance, assessment, and treatment of stress and anxiety-related problems (in clinical and non-clinical populations); Psychophysiology and new innovative methods in the exploration of these factors and problems; Informing current therapeutic procedures (e.g., Cognitive Behaviour Therapy and Acceptance and Commitment Therapy) by subjecting some of the basic assumptions of clinical behaviour analysis to experimental verification with the aim of achieving behaviour change.

### **• Michael Lombardo, Lecturer**

He is interested in understanding developmental, cognitive, and neural mechanisms involved in social communication and social cognition, both in the general population and in individuals affected with autism spectrum disorders. His research employs a multidisciplinary range of techniques from experimental psychology, cognitive and social neuroscience, and developmental psychology, with a particular emphasis on brain imaging techniques such as magnetic resonance imaging and functional near infrared spectroscopy. He is also interested in early biological mechanisms that influence social communication, social cognition and autism, such as the role of early hormonal influences and genetic contributions.

• **Michalis Michaelides, Lecturer**

Psychometrics and Testing, Research Methods, Assessment Conceptions.

• **Georgia Panayiotou, Associate Professor**

Emotion and cognition, psychophysiology, self/focused attention, disruptive behavior disorders in children.

• **Timotheos Papadopoulos, Associate Professor**

Reading development and acquisition of reading skills, reading difficulties and subtypes, cognitive profiles of poor readers, diagnosis and remediation, attention and planning deficits.

• **Charis Psaltis, Associate Professor**

Social interaction, learning and development. Co-operative learning. Genetic social psychology. Social representations of gender. Intergroup contact and intergroup relations. Intercultural education and integrated schools. Development of national identities. History teaching and collective memory.

• **Athanasios Raftopoulos, Professor**

Epistemology, Philosophy and History of Science, Cognitive Science, Philosophy of Mind.

• **Georgios Spanoudis, Associate Professor**

Cognitive development, memory and intelligence, language acquisition and language disorders, pragmatics and semantics, psychophysiology.

• **Panayiotis Stavrinos, Assistant Professor**

Research focuses on two main areas: First, it investigates psychopathic traits (lack of empathy and moral judgment, narcissistic traits, and extreme impulsivity) that lead to particular forms of childhood aggression. Second, it examines the relationship between various types of parenting and adolescent abnormal adjustment outcomes (substance use & delinquency).

### Contact Details

**Department Secretariat**

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Maro Nearchou

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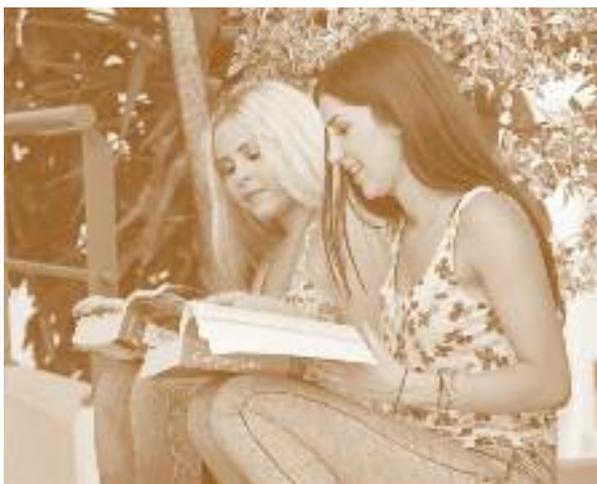
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# Department of Social and Political Sciences



*The Department of Social and Political Sciences promotes research and knowledge in the fields of Sociology and Political Science. It offers undergraduate and postgraduate programmes in these two fields.*

*The Department offers the following programmes:*

- *M.A. in Social and Political Theory*
- *M.A. in Political Science*
- *Ph.D. in Sociology*
- *Ph.D. in Political Science*

*The Department also participates in the consortium of universities offering the European Master in Human Rights and Democratisation. (The Consortium consists of 41 universities from 28 European Union member states and constitutes an example of European inter-university co-operation).*

## **Introduction**

Our mission is to develop and disseminate significant knowledge about politics and sociology at the local, national and international levels.

The research interests of the members of the Department are geared towards the needs of Cypriot society but they also have an international orientation. Emphasis is placed upon interdisciplinary research in the context of wider research projects both in Cyprus and abroad.

## **MASTER PROGRAMME IN SOCIAL AND POLITICAL THEORY**

The M.A. in Social and Political Theory offers specialization in various spheres of sociology and political science with a particular emphasis on theory. Specifically, the M.A. offers specialised training in research methods, which will help students develop skills in processing, critically analysing and investigating social and political issues. The programme provides a scientific basis for the study of specialised subject matter in the theoretical fields of sociology and political science as outlined in the M.A. course syllabus. Furthermore, the M.A. programme prepares students for Ph.D. study and specialization in sectors that support social research and research within special programmes.

The programme can be attended on a full-time or part-time basis.

## **Programme Structure**

The M.A. programme in Social and Political Theory is comprised of:

- I. Taught Courses
- II. M.A. Dissertation

### **I. Taught Courses**

Each student is required to follow four compulsory courses and four elective courses depending on the field of research the student wishes to specialise in.

In exceptional cases, following the approval of the Department's M.A. committee, students of the M.A. programme may select one taught course from a different M.A. course as one of their three elective courses, provided

that the course is relevant to the student's final M.A. dissertation topic.

## II. M.A. Dissertation

During the third semester of the M.A. course students prepare their dissertation. The thesis must be approximately 15,000 words in length (including references and appendices).

## Admission Requirements for the M.A. Programme

For information on application requirements please refer to the Admission and Attendance Regulations - Application Requirements. For more information, students may consult the Graduate School (tel.: 22894021/44) or the Department's Secretariat.

In addition to the general requirements, graduates of Greek universities or the University of Cyprus should hold a «Λίαν Καλώς» (Very Good) or above degree. The equivalent grade is required from candidates-graduates of other universities. A good knowledge of the English language is required (TOEFL grade 550, GCE O' Level grade B, IELTS grade 6.5). The knowledge of an additional foreign language will be counted as an extra qualification. The yearly number of entrants to the M.A. course is 15.

## Requirements for obtaining the M.A. Degree

Successful completion of 90 ECTS is required. These are allocated as follows:

	ECTS
Courses (4x7.5)+(4x7.5)	60
M.A. Dissertation (1x30)	30
<b>Total</b>	<b>90</b>

## ECTS credits earned under another M.A. Degree

Students who have successfully completed courses within a different postgraduate programme may be credited with up to 20 ECTS provided that the credits do not correspond to more than two courses. In such cases, the Department examines the application and upon approval, the relevant credits are then deducted from the M.A. programme's required credits from taught courses.

## Application – Registration

For information on the Application Requirements and Registration, please refer to the *Admission and Attendance Regulations - Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat.

## Calculation of workload (ECTS credits) for the M.A. Programme in Social and Political Theory

The ECTS is based on the calculation of the student's work hours over the period of each semester. One ECTS credit corresponds to 25-30 hours of work per semester.

Consequently, 7.5 ECTS correspond to 200 hours of work. It is suggested that ECTS be divided as follows, per course:

	ECTS
• Three teaching hours X 13 weeks	39
• Six hours of guidance meetings with students	7
• Students' study time per semester (approximately ten hours of preparation each week including the study time spent for the bibliographical research that is required for the writing of essays)	104
• Preparation and writing of final essay for the course	50
• Total working hours per course per semester	200

For the dissertation, students are required to collect the appropriate reference material, to investigate and present a subject that is related either to Social or Political Theory, in cooperation with their tutor.

## Proposed M.A. Programme of Studies

	ECTS
<b>First Semester</b>	
(2 Compulsory Taught Courses and 2 Elective Taught Courses = 30 ECTS)	
<b>Two Compulsory Taught Courses</b>	
SPS 510 Interpretative Approaches to Political Theory	7.5
SPS 610 Classical Sociological Theories	7.5
<b>Two Elective Taught Courses from the list below</b>	
SPS 500 Research Methods	7.5
SPS 503 Political Thinkers	7.5
SPS 504 Statesmanship, Governance and Political Theory	7.5
SPS 505 Justice, Freedom and War	7.5
SPS 506 Theories of Equality	7.5
SPS 511 20th century Political Concepts and Theories	7.5
SPS 611 Technology and Social Change	7.5
SPS 618 Globalisation and Social Theory	7.5
<b>Second Semester</b>	
(2 Compulsory Taught Courses and 2 Elective Taught Courses = 30 ECTS)	
<b>Two Compulsory Taught Courses</b>	
SPS 512 Political Sociology	7.5
SPS 612 Contemporary Sociological Theories	7.5
<b>Two Elective Taught Courses from the list below</b>	
SPS 514 Feminist Theory	7.5
SPS 613 Social Anthropology	7.5
SPS 614 Sociology of Social Movements	7.5
SPS 615 Selected Topics in Social Theory	7.5
SPS 616 Political Legitimacy 7.5	
SPS 617 Selected Topics in Political Theory	7.5
<b>Third Semester</b>	
SPS 599 Dissertation	30
<b>Total</b>	<b>90</b>

## Course Descriptions

All courses are credited with 7.5 ECTS.

### SPS 500 Research Methods

The course aims to help students understand the process of developing research following scientific methods and approaches. The course will include: ways of choosing research questions, the importance of reviewing bibliography, developing theoretical research frameworks, categories of variables, research questions, research hypotheses, formulation of questionnaires and other methods of measuring, the validity and credibility of methods of measuring, internal validity, research ethics, sampling techniques, methods of data collection, data analysis and interpretation of results using the statistics package SPSS, various kinds of research, authoring a scientific research paper.

### SPS 503 Political Thinkers

The course engages with the various aspects of the thought of a political theorist, while aiming, concurrently, to analyze different interpretations and/or appropriations of her/his work. Essentially the course moves on double axis: thought and interpretation, ideas and reception of ideas. On the one hand, the course focuses on ideas of political thinkers and the intellectual context within which those ideas are developed i.e., biographical, linguistic, historical, methodological contexts. On the other hand, the emphasis moves from the texts and thinkers themselves to the receiving society, examining for example, how the ideas of Plato, Aristotle, Immanuel Kant, John Stuart Mill, Karl Marx and others, were transferred, appropriated, and/or altered according to the specific conditions, in service of aims and/or needs, of the twentieth and the twenty-first centuries.

### SPS 504 Statesmanship, Governance and Political Theory

Different interpretations, approaches and revisions of the conception of "good", "moral", or "effective" statesmanship and governance manifest themselves as one moves from Classical Athens to the present. The course examines the continuity or discontinuity of political thinking regarding the features and characteristics of political leadership taking under consideration the social, cultural and historical variances between the political theories that are under investigation. Studying the mentality of political thinkers on statesmanship comes to grip with the issue of defining "the political" i.e., the conceptual space in which power, morality and reason meet. At the same time, the course examines the nature, the methods and the limits of "Political Science", i.e. whether or not one can meaningfully speak of such knowledge – which is needed in determining, revising and pursuing the goals of a society – as a product of experience or abstract thinking.

### SPS 505 Justice, Freedom and War

The course focuses primarily with the moral questions of armed conflicts, by distinguishing between 'jus ad bellum' and 'jus in bello'. On the one hand, the course will examine moral questions involved in going to war such as: Can war ever be morally justified? If yes, when? In self-defense? Can war further the legitimate goals of a sovereign State? Are humanitarian reasons enough to justify, or even morally necessitate, armed conflict? On the other hand, the course will examine questions which arise during war such as: Are there moral limits and rules in battle? Can a State, once in war, use any means possible to quickly end the war (e.g. by aiming non-combatants, or by

using weapons of a particular type)? Can terrorism ever be morally justified?

### SPS 506 Theories of Equality

The course focuses on two basic aspects of equality: equality as a component of a theory of justice and equality as a social ideal. In the first case, theories of distributive equality lay emphasis on what the object of equal distribution is—resources, welfare, opportunities—with the respect of individuals at its core. In the second case, the ideal of creating a society without social distinctions and hierarchies moves the focus away from inequality in the distribution of goods to inequalities due to marginalization, dominance and cultural imperialism. The course examines both theories of distributive equality and theories of social equality, as well as the latter's critique towards the former.

### SPS 510 Interpretative Approaches to Political Theory

The course investigates the methodological problems related to the study and interpretation of the history of political thought. When political terms such as justice, rights, freedom, etc., are examined through the written statements of political thinkers, crucial methodological issues arise that are related to the historicity of concepts, the universality of ideas and how those ideas are understood. Separating history from philosophy and treating the two as different subjects of scientific investigation brings up the question of whether the history of political thought belongs to historical research or to philosophical investigation. If interpretative reading should occur following an eclectic collaboration between the two then what is the relationship between these two methods of investigation? There are many suggested methodological approaches concerning the reading of political ideas. These will be examined through critical interpretation and analysis of the works of each approach's main proponent. The research methods suggested and developed by R.G. Colingwood, M. Oakshott, L. Strauss, A. Lovejoy and Q. Skinner and others will be analysed.

### SPS 511 20th Century Political Concepts and Theories

The course focuses on the two-way relationship between the political perceptions and the defining historical events of the 20th century. During the 20th century, liberalism was boosted and redefined, national socialism appeared in the political forefront and became a formal state dogma, Marxism experienced such a fragmentation that the use of the term in its singular form became utterly problematic (western Marxism and "critical theory"; Stalinism, reformism). The clash of ideologies and the concurrent social movements to an extent determined the historical developments that consequently became the basis for new ideological directions, differentiations within trends of thought, new convergences and divergences between the various schools of political thought and the number of newly founded ideological trends within each line of thinking.

### SPS 512 Political Sociology

The course investigates the main terms and theoretical debates, the methodology and the themes of political sociology. The social foundation of political phenomena is investigated through the analysis of various systems of political structure, different forms of political action, the role of ideology and the procedures of political opposition and change. The

course places special emphasis on theoretical issues, but always in conjunction with analysis of empirical data.

#### **SPS 514 Feminist Theory**

The course examines the various philosophical trends and currents that comprise the intellectual legacy of contemporary feminism. First, the development of feminist thought is investigated from a historical-sociological angle. In addition, the module examines the theoretical oppositions that reflect women's various needs and perceptions in different societies and under different conditions that, in turn, originate from the founding of feminism within antagonistic ideological traditions.

#### **SPS 610 Classical Sociological Theories**

The course examines the work of sociology's most important thinkers of the classical period (from around the mid-19th century up to the mid-20th century). The course's main aim is the in-depth analysis of the most important issues of classical sociological theory. Special emphasis is placed on questions concerning the methodology of the social sciences, the appearance of modernism and modern society's capitalist character.

#### **SPS 611 Technology and Social Change**

The course investigates the social effects of technology that can only be understood through the systematic analysis of people's everyday lives. The following points will be tackled: the comprehension and analysis of bibliographical references, the investigation of the theories and models of technological innovation and social change and their inter-relationships; how are the institutional, cultural and political elements connected to technological transfer acquired? The methods of determining the effects of technological change will be studied and the alternative of planned technology that is linked to social change will be critically analysed based on case studies in Cyprus and Europe.

#### **SPS 612 Contemporary Sociological Theories**

The course examines the work of the most important thinkers of sociology in modern times (from around the mid-20th century until the present day). The course's main aim is the thorough discussion of the major issues in contemporary sociological theory. Questions regarding the methodology of social sciences and the character of social reality will be posed and social change in modern society will be analysed.

#### **SPS 613 Social Anthropology**

The course examines social anthropology's main theoretical trends with a special emphasis on more recent approaches and on social anthropology's contribution to social theory. The basic theoretical approaches will be discussed (functionalism, structural functionalism, structuralism, Marxist anthropology, action theories, anthropology of the social gender, interpretative anthropology, post-modernism, and post-colonial critique) with the main reading material being each school's classic ethnographies. Additionally, a series of thematic categories such as gender, religion, capitalism and the body will be discussed from the different angles of approach suggested by the different theories.

#### **SPS 614 Sociology of Social Movements**

The history of social movements poses a serious theoretical problem concerning social analysis. On the one hand, there is a

temptation to search for deterministic regularities that limit the scope of the effect of social movements, but on the other, social movements are dangerously easy to find everywhere. Therefore, the module will focus on the internal differentiation of social movements and it will then move on to their historical formalisation, comparing the various tactics and strategic methods of movements. The interaction among political parties, social classes, ethnic and religious groups will be examined along with the fluid relationship and antithesis between revolutionary and social movements or pressure groups. Both micro-sociological and macro-sociological approaches will be examined.

#### **SPS 615 Selected Topics in Social Theory**

The specific content of this course is determined by the instructor, but will reference the basic themes of social theory and issues of contemporary relevance. The class will offer in-depth discussion of the selected topics, as well as advanced-level analysis and research.

#### **SPS 616 Political Legitimacy**

The course aims to explore definitional issues of the concept of "political legitimacy" and discuss different conceptions of political legitimacy in contemporary political thought. Some of the basic questions to be examined are: Is legitimacy a descriptive or normative concept? If the latter, what are its implications for authority? When are political institutions and their decisions, laws or rules, legitimate? Is there legitimacy in the state system? What are the most important conceptions that legitimacy deals with? The course aims to familiarize students with contemporary literature on the subject as well as enable them to use conceptions of legitimacy to analyze and evaluate contemporary crises of legitimacy.

#### **SPS 617 Selected Topics in Political Theory**

The specific content of this course will depend upon the instructor, but will cover the basic areas of political theory and issues of contemporary relevance. The course will offer students in-depth coverage of the selected topics, as well as advanced-level analysis and research.

#### **SPS 618 Globalisation and Social Theory**

The course presents the main social theories that seek to interpret globalisation. Starting from the school of world systems and the theories of international relations, the course covers the classical approaches as they have developed in the current international literature. The course will use both primary sources and secondary sources. Themes such as the historicity of globalisation, the relationship between cosmopolitanism, internationalism and globalisation will be examined. The State's role in the new reality will also be investigated.

### **MASTER PROGRAMME IN POLITICAL SCIENCE WITH SPECIALIZATION IN INTERNATIONAL RELATIONS OR EUROPEAN POLITICS**

The M.A. programme comprises the following:

- I. Taught Courses
- II. Independent Study, Seminars, Conferences
- III. M.A. Dissertation

Students are required to successfully complete all three parts of the programme. Following admission to the M.A. programme, students must choose a specialization direction, either International Relations or European Politics.

Specifically, 60% of credit units will be comprised of eight courses (66.6% of these courses will be compulsory and 33.3% will be courses of the student's choice); 10% of credit units will be allocated to departmental research seminars/conferences and the completion of an independent study (description, critical analysis and assessment) based on a lecture, recommendation or roundtable; the final 30% of credit units will be allocated to the completion of the dissertation.

### I. Taught Courses (60 ECTS)

All M.A. candidates must complete eight courses: three of these are compulsory for both directions; three are compulsory as specialization courses; the remaining two are to be chosen from a range of optional courses in the Department of Social and Political Science (from the other direction of specialization in the new M.A. programme and/or from the existing M.A. in Social and Political Theory). Each taught course is credited with 7.5 ECTS, as are all postgraduate courses in the Department.

#### (1) Core Courses

All three are compulsory for both specialization directions  
 SPS 540 International Political Theory  
 SPS 541 Regional and International Governance  
 SPS 500 Research Methods

#### (2) Specialization Courses

##### (2.1) Compulsory Courses for the International Relations direction and optional for the European Politics direction

SPS 640 International Political Economy  
 SPS 641 Diplomacy  
 SPS 642 International Law

##### (2.2) Compulsory Courses for the European Politics direction and optional for the International Relations direction

SPS 643 Contemporary European Politics  
 SPS 644 European Political Economy  
 SPS 645 European Union as International Actor

#### (3) Additional Courses

Choice of two optional courses, either from the other specialization direction in 2.1 or 2.2 above and/or from the courses below:

SPS 510 Interpretative Approaches to Political Theory  
 SPS 511 20th century Political Perceptions  
 SPS 512 Political Sociology  
 SPS 513 Special Issues in International Relations  
 SPS 514 Feminist Theory

SPS 515 Special Issues in European Politics  
 SPS 529 EU & Contemporary Subjects of Human Rights and Democratization  
 SPS 610 Classical Sociology Theories  
 SPS 611 Technology and Social Change  
 SPS 612 Contemporary Sociology Theories  
 SPS 613 Social Anthropology  
 SPS 614 Sociology of Social Movements  
 SPS 618 Globalisation and Social Theory

### II. Research Seminars/Conferences and Independent Study (10 ECTS)

Attendance at the Department's research seminars is compulsory. By the end of the second semester, students must choose a specific presentation or roundtable discussion as an independent study topic/paper (description, critical analysis and assessment) of approximately 3000 words.

### III. Dissertation (30 ECTS)

#### In the field of specialization

In their third semester, students attend two courses and begin writing their dissertation. The dissertation should be around 15,000 words, including bibliography. The fourth semester is devoted to writing the dissertation.

Total: 100 ECTS

## Featured Courses per Semester

#### First Semester

##### 3 Courses (22.5 ECTS)

International Political Theory  
 International Political Economy  
 International Law  
 Contemporary European Politics  
 (or any other Optional Course for the specialization in European Politics)

#### Second Semester

##### 3 Courses (22.5 ECTS)

Regional and International Government Diplomacy  
 European Political Economy  
 European Union as International Actor  
 (or any other Optional Course for specialization in International Relations)

#### Third Semester

##### 2 Courses and Independent Study (25 ECTS)

Research Methods  
 Optional Course  
 Dissertation  
 Fourth Semester  
 Dissertation (30 ECTS)

## Submission of Application

To be eligible for admission, students must submit complete applications prior to the deadline set by the University of Cyprus. Applications must include the following:

1. A photocopy of a university undergraduate degree. In lieu of a university degree, the following are also acceptable: a degree or a qualification that has been approved by KYSATS (Cyprus Council for the Recognition of Higher Education Qualifications) as being equivalent to a university degree; evidence of imminent university graduation by the end of the week before enrolment begins
2. A detailed transcript of undergraduate degree results
3. A brief curriculum vitae
4. A certificate attesting to English language proficiency, as well as certification of Greek language proficiency for graduates of non-Greek universities
5. Two reference letters (at least one from an academic)
6. A brief statement (up to two pages in length) describing the applicant's research goals and interests

## Entry Criteria for the M.A. Programme

- (a) Candidates for the M.A. programme should be graduates of an accredited university department, holding a degree in Political Science or a relevant field.
- (b) Graduates of Greek universities or the University of Cyprus should normally have a grade of 7.0 or higher. The equivalent grade is required from candidates-graduates of other universities.
- (c) The programme is taught in Greek; however, the dissertation and other academic essays may be written in English or another language, with the permission of the student's supervisor and the M.A. coordinator.
- (d) A good knowledge of the English language is required. The knowledge of an additional foreign language will be considered as an extra qualification.
- (e) The Departmental Council, upon recommendations from the Postgraduate Studies Committee, makes the final decisions on candidates' admission to the programme.
- (f) The Programme Committee will determine whether a candidate must undergo an interview or/and a written examination, even if all entry requirements are satisfied.
- (g) Each year a total of 20 candidates will be admitted to the programme (10 in each specialization).

## Study Rules

These are regulated according to the University Postgraduate Study Rules.

## Requirements for the M.A. Degree

An academic advisor is assigned to each new entrant to the M.A. course. A total of four semesters of study is required, during which time the student must successfully complete 100 ECTS, allocated as follows:

	ECTS
Courses	60
Seminar Attendance and Essay	10
Dissertation	30

Students will be awarded an M.A. in Political Science (International Relations) or M.A. in Political Science (European Politics).

## Course Descriptions

### SPS 500 Research Methods

The course will help students understand how to develop research projects using scientific methods and approaches. The module will include: ways of choosing research questions, the importance of reviewing bibliography, developing theoretical research frameworks, categories of variables, research questions, research hypotheses, formulation of questionnaires and other methods of measuring, the validity and credibility of methods of measuring, internal validity, research ethics, sampling techniques, methods of data collection, data analysis and interpretation of results using the statistics package SPSS, various kinds of research, authoring a scientific research paper.

### SPS 510 Interpretative Approaches to Political Theory

The module investigates the methodological problems related to the study and interpretation of the history of political thought. When political terms such as justice, rights, freedom, etc., are examined through the written statements of political thinkers, crucial methodological issues arise that are related to the historicity of concepts, the universality of ideas and how those ideas are understood. Separating history from philosophy and treating the two as different subjects of scientific investigation brings up the question of whether the history of political thought belongs to historical research or to philosophical investigation. If interpretative reading should occur following an eclectic collaboration between the two, then what is the relationship between these two methods of investigation? There are a great many methodological approaches to reading political ideas. These will be examined through the critical interpretation and analysis of the approach and works of each main theorist; thus we will examine the research methods suggested and developed by R.G. Colingwood, M. Oakeshott, L. Strauss, A. Lovejoy and Q. Skinner and others.

### SPS 511 20th century Political Perceptions

The module focuses on the two-way relationship between political perceptions and the defining historical events of the 20th century. During the 20th century liberalism was boosted and redefined, national socialism appeared in the political

forefront and became a formal state dogma, Marxism experienced such fragmentation that use of the term in its singular form became utterly problematic (western Marxism and “critical theory”, Stalinism, reformism). The clash of ideologies and the social movements that came with them to an extent determined the historical developments that consequently became the basis for new ideological directions, differentiations within trends of thought, new convergences and divergences between the various schools of political thought and the number of newly founded ideological trends within each line of thinking.

#### **SPS 512 Political Sociology**

The module investigates the main terms and theoretical debates, the methodology and the themes of political sociology. The social foundation of the political phenomenon is investigated through the analysis of various systems of political structure, different forms of political action, the role of ideology and the procedures of political opposition and change. The module places special emphasis on theoretical issues, but always in conjunction with the analysis of empirical data.

#### **SPS 513 Special Issues in International Relations**

This course examines important issues of international relations, of concern to both the scholarly and the ‘international’ community. Such issues include international security, NGO activism, as well as global communication, environmental and intercultural relations.

#### **SPS 514 Feminist Theory**

The module examines the various philosophical trends and currents that comprise the intellectual legacy of contemporary feminism. First, the development of feminist thought is investigated from a historical-sociological angle. Then the module examines the theoretical oppositions that reflect women’s various needs and perceptions in different societies and under different conditions that, in turn, originate from the founding of feminism within antagonistic ideological traditions.

#### **SPS 515 Special Issues in European Politics**

This course examines important issues of European politics, of concern to the scholarly community as well as the ‘European’ community. Such issues include the legitimacy crisis of European democracy and the challenges facing the Europe of the 21st century.

#### **SPS 529 EU and Contemporary Issues of Human Rights and Democratization**

This module is comprised of a series of seminars/ workshops/ lectures, wherein students examine and analyse contemporary issues of human rights and international democratisation. The course will also critically address, through an interdisciplinary approach, the way in which the EU deals with those issues.

#### **SPS 540 International Political Theory**

This course examines international political theory as it has emerged and developed from classical and modern political theory. It makes an historical and philosophical investigation into key concepts and their use in international politics, that is to say, their acceptance, interpretive debate, their proper, improper or rhetorical use by the various political actors on the world stage. Specifically, the course examines concepts such as sovereignty, governance, power, violence, peace, security,

civilization, development, order, community, self-determination, legitimation, friendship, enmity, coexistence, solidarity, justice, integration, etc.

#### **SPS 541 Regional and International Governance**

The establishment of international and regional organisations and institutions is one of the most notable trends of the post-war era. Indeed, there are more than 5,000 international organisations in the world today. The course examines theories and practices of governance at the regional and international level, looking at the factors affecting the establishment of international organisations, their evolution and future, as well as various trends in international governance. The course also analyses the problems and pathologies of international organisations and their formal institutional structures, and investigates the general and specific nature of organisations of regional and international magnitude. In particular, this course will offer insight into the functioning of international organizations such as the United Nations, World Bank, WTO, IMF etc., and regional institutions like the EU, the African Union, ASEAN, Mercosur, etc. Additionally, this module examines such themes as bureaucracy, democracy, interventionism and resistance movements.

#### **SPS 610 Classic Sociology Theories**

The module examines the work of sociology’s most important thinkers in the classic period (from around the mid-19th century to the mid-20th century). The module focuses primarily on an in-depth analysis of the most important issues in classic sociology theory. Special emphasis is placed on questions regarding the methodology of the social sciences, the appearance of modernism and modern society’s capitalist character.

#### **SPS 611 Technology and Social Change**

The module investigates the social effects of technology that can only be understood through the systematic analysis of people’s everyday lives. The following points will be tackled: the comprehension and analysis of bibliographical references, the investigation of the theories and models of technological innovation and social change and the relationships between them; how are the institutional, cultural and political elements connected to technological transfer acquired? The methods of determining the effects of technological change will be studied and the alternativeness of planned technology that is linked to social change will be critically analysed based on case studies in Cyprus and Europe.

#### **SPS 612 Contemporary Sociology Theories**

The module examines the work of the most important thinkers of sociology in modern times (from around the mid-20th century until the present day). The course will focus on a thorough discussion of the main issues in contemporary sociology theory. Questions regarding the methodology of social sciences and the character of social reality will be posed and social change in modern society will be analysed.

#### **SPS 613 Social Anthropology**

The module examines social anthropology’s main theoretical trends with a special emphasis on more recent approaches and on social anthropology’s contribution to social theory. The basic theoretical approaches will be discussed (functionalism, structural functionalism, structuralism, Marxist anthropology, action theories, anthropology of the social gender,

interpretative anthropology, post-modernism, and post-colonial critique) with the main reading material being each school's classic ethnographies. Additionally, a series of thematic categories such as gender, religion, capitalism and the body will be discussed from the different angles of approach suggested by the different theories.

#### **SPS 614 Sociology of Social Movements**

The history of social movements poses a serious theoretical problem for social analysis. On the one hand, there is a temptation to search for deterministic regularities that limit the scope of the effect of social movements but, on the other hand, social movements are dangerously easy to find everywhere. Therefore, the module will focus on the internal differentiation of social movements before moving on to their historical formalization, comparing the various tactics and strategic methods of the movements. The interaction among political parties, social classes, ethnic and religious groups will be examined along with the relationships between revolutionary and social movements or pressure groups. Both micro-sociological and macro-sociological approaches will be examined.

#### **SPS 618 Globalisation and Social Theory**

The module presents the main social theories that seek to interpret globalisation. Starting from the school of world systems and the theories of international relations, the module covers the classic approaches as they have developed in the current international literature. The module will use both primary and secondary sources. Themes such as the historicity of globalisation, the relationship between cosmopolitanism, internationalism and globalisation will be examined. The state's role in the new reality will also be investigated.

#### **SPS 640 International Political Economy**

This course examines international relations in regard to economic transactions among nations, including discussion of the basic poles of international economy and the pattern of uneven economic development among states. There will be an emphasis on modern trends of economic interpenetration, interdependence and the dominance of 'national' economies as well as of leading international institutions (such as the World Trade Organisation and the IMF), which have decisive repercussions on the institutional framework or/and on the crisis management of the 'globalised' economy.

#### **SPS 641 Diplomacy**

This course examines diplomatic theory and practice from the perspective of interstate relations and beyond. Specifically, it surveys the development of diplomatic thought, the different theoretical approaches to diplomacy, the traditional and emerging actors, and the new structures and processes of diplomatic practice. It looks at the scope and extent of diplomatic relations, diplomatic law, the types of diplomatic mission, diplomatic communication, public diplomacy, mediation and negotiation. It discusses case studies like coercive diplomacy, crisis management, and celebrity diplomacy.

#### **SPS 642 International Law**

This module examines the basic concepts and principles of international law, as well as its law-making and enforcement mechanisms. It will give an overview of the traditional and contemporary theoretical approaches to international law and

will examine its sources (treaties, customs, etc.) and subjects (states, international organizations, etc.). Issues of statehood and recognition, as well as the role of non-state actors will be emphasized. The module will also examine the fundamental rules of international law, such as the prohibition on the use of force in international relations, the principle and means of peaceful settlement of disputes, as well as particular fields, such as the law of the sea.

#### **SPS 643 Contemporary European Politics**

Europe is comprised of states with very different political systems, social structures and cultural characteristics. This course examines the political systems of various European states, and attempts to highlight particular issues arising from their heterogeneity as well as from the need to formulate and apply different or/and common policies. It looks closely at the most important differences among states, common policies. It looks closely at the most important differences among states, and examines how their particularities have contributed to the development of European institutions. On the other hand, through the analysis of specific policies, the module examines how the EU affects the evolution of institutions and practices in other member states.

#### **SPS 644 European Political Economy**

European integration is a complex, dynamic process comprising two main and interdependent components—economic and political. During the past decades, these components have developed at different rates, leading to imbalances, problems, and deep and unresolved issues regarding the institutional framework of the EU. The course will focus on the issue of the sustainability of the EU as an institution — characterized as it is by uneven levels of economic development, and rapidly changing geography.

#### **SPS 645 The EU as International Actor**

This course examines and analyses the role of the EU in the world through the historical evolution of its foreign relations and policies: Common Foreign Policy and Security Policy, Trade Policy, Development Policy, Neighbourhood Policy, issues of Human Rights and Democratisation, the role of European diplomacy in resolving international conflicts, etc. Today, the EU constitutes a significant, unconventional actor on the international stage, with more authority than conventional international institutions, and less authority than that of states. How does the EU participate in international institutions? How does its involvement differ depending on the level of integration in various policy fields? What are the changes due to its participation? What changes are due to the existence of the European External Action Service? How are its role and policy affected by the intrinsically different approaches or foreign policies of its member states? These questions are open to multiple answers. Using the wide-ranging theoretical discourse developed around these issues, the course will offer a rich framework for discussing the phenomena shaping the network of foreign relations and policies of the EU.

### **EUROPEAN MASTER IN HUMAN RIGHTS AND DEMOCRATISATION**

The Department of Social and Political Sciences participates in the Consortium of universities offering the European Master in Human Rights and Democratisation. The Consortium consists of 41 universities from the 28

European Union member states and constitutes an example of European inter-university co-operation.

The academic year of the European Master Programme in Human Rights and Democratisation is divided into two semesters:

- the first semester (September to January) in Venice/ Lido and
- the second (February to July) at an E.M.A. participating university situated in the member states of the European Union. This second part of the programme is conceived as a European exchange, and students are expected to undertake their second semester research in a country other than their own.

### Admission

Applications are to be sent to the Secretariat of the European Inter-University Centre for Human Rights and Democratisation in Venice, Italy.

#### EIUC Secretariat

European Master Degree in Human Rights and Democratisation (E.M.A.)

Monastery of San Nicolò

26 Riviera San Nicolò

30126 Venice - Lido, Italy

Tel.: +39 041 2720911

Fax.: +39 041 2720914

E-mail: [secretariat@eiuc.org](mailto:secretariat@eiuc.org)

#### For more information:

[ec.europa.eu/external\\_relations/human\\_rights/ema/index\\_en.htm](http://ec.europa.eu/external_relations/human_rights/ema/index_en.htm)

[www.emahumanrights.org](http://www.emahumanrights.org)

[www.eiuc.org](http://www.eiuc.org)

#### Coordinator of the European Master

Kalliope Agapiou-Josephides

Assistant Professor

Tel.: (+357) 22894562

E-mail: [agapiouj@ucy.ac.cy](mailto:agapiouj@ucy.ac.cy)

### Participating Universities

The European Master Programme in Human Rights and Democratisation is organised through the joint efforts of the following participating universities: Abo Akademi University (Finland), Adam Mickiewicz University in co-operation with the Poznan Human Rights Centre (Poland), Aristotle University of Thessaloniki (Greece), Masaryk University of Brno (Czech Republic), Ca' Foscari University of Venice (Italy), Catholic University Leuven (Belgium), University of Coimbra (Portugal), Comenius University of Bratislava (Slovak Republic), University of Copenhagen (Denmark), University of Cyprus (Cyprus), University of Deusto, Bilbao (Spain), National University of Ireland, Dublin - University College Dublin (Ireland), University of

Hamburg (Germany), University of Helsinki (Finland), National University of Ireland, Galway (Ireland), University of Graz (Austria), Eotvos Lorand University of Budapest (Hungary), University of Latvia (Latvia), Université Libre de Bruxelles (Belgium), New University of Lisbon (Portugal), University of Ljubljana (Slovenia), Lund University (Sweden), Université du Luxembourg (Luxembourg), Maastricht University (Netherlands), University of Malta (Malta), Université de Montpellier (France), University of Nottingham (United Kingdom), University of Padua (Italy), Panteion University, Athens (Greece), Queen's University of Belfast (United Kingdom), Université Robert Schuman, Strasbourg (France), Ruhr-University Bochum (Germany), University of Seville (Spain), University of Southern Denmark in co-operation with the Danish Institute for Human Rights (Denmark), University of Tartu (Estonia), Uppsala University (Sweden), Utrecht University (The Netherlands), University of Vienna (Austria), Vilnius University (Lithuania), University of Bucharest (Romania) and Sofia University St Kliment Ohridski (Bulgaria).

### Ph.D. Programmes

The Department of Social and Political Sciences offers two Ph.D. programmes:

- Ph.D. Programme in Sociology
- Ph.D. Programme in Political Science

### Admission Requirements and Study Rules

For information on the admission requirements for Ph.D. programmes, please refer to the Admission and Attendance Regulations – Application Requirements or please consult the Graduate School (tel.: 22894021/44) or the Department's Secretariat.

In addition to the general requirements, good knowledge of English is a prerequisite. Knowledge of a second European language will be considered an additional qualification. The annual number of entrants to the Ph.D. programme is six.

It is also noted that according to the Admission and Attendance Regulations "within the framework of student exchange, a Ph.D. student may spend up to one calendar year of study at a university abroad."

### Requirements and Structure of the Ph.D. Programmes

For information on the requirements, the structure of the Ph.D. programmes, application requirements and registration, please refer to the *Admission and Attendance Regulations – Application Requirements* or please consult the Graduate School (tel.: 22894021/44) or the Department Secretariat. In brief, the requirements and the structure of the Ph.D. programmes are as follows:

**(1) Research Supervisor**

A research supervisor, appointed by the Department Council, is required to guide the student toward the completion of the Ph.D. dissertation.

**(2) Course Attendance**

The staff responsible for the course may advise any Ph.D. candidate to follow courses from the M.A. programme if they consider this necessary for the Ph.D. candidate's research, and/or that doing so will help develop the research topic.

**(3) Approval of Ph.D. Proposal**

During the third semester of postgraduate study, Ph.D. candidates conduct preliminary research, which will lead to a detailed Ph.D. proposal.

**(4) Comprehensive Examination**

Each candidate is required to successfully complete a comprehensive written examination, no later than the fifth semester. The department organises these examinations at least once a year.

**(5) Ph.D. Thesis**

The completion of an original doctoral thesis is another requirement of the programme. The thesis must be an important contribution to the subject. The Ph.D. thesis may be written in a language other than Greek upon approval by the research supervisor.

**(6) Defence of Ph.D. Thesis**

The thesis is defended before a five-member examining board.

**(7) Duration of Study**

A Ph.D. degree may be completed in a minimum period of six (6) semesters and a maximum of sixteen (16) semesters starting from the date of admission.

**(8) Successful Completion of 240 ECTS**

The credits break down as follows:

	ECTS
Courses (credited by the M.A. programme)	60
Research (4 semesters x 30 ECTS)	120
Writing of Postgraduate Thesis (2 semesters x 30 ECTS)	60
<b>Total</b>	<b>240</b>

**Submission of Application - Registration**

In addition to the general requirements, applicants must also consider the following:

- (a) Candidates who have not yet completed their M.A. programme but are enrolled and are studying for the degree, may be accepted provided they complete their studies by the 31st of July of the year that they will be

enrolling for the Ph.D. course, following the approval of the Postgraduate Committee.

- (b) Evidence (e.g., certificate) of good knowledge of the English language.
- (c) A statement describing the candidate's scholarly and research interests.

**Research Interests of the Academic Staff**

**• Kalliope Agapiou-Josephides, Assistant Professor**

Holder of Jean Monnet Chair in European Political Integration. European Political Integration with an emphasis on institutional aspects, Common Foreign and Security Policy, Euro-Mediterranean Partnership. European Union and Cyprus with an emphasis on accession and harmonization process. Women and Politics.

**• Costas M. Constantinou, Professor**

Diplomacy, International Political Theory, International Rules, Norms and Exceptions, International Conflicts, Politics of the Cyprus Conflict.

**• Kyriakos Demetriou, Professor**

Ancient political thought with emphasis on the Sophists, Plato and classical constitutions. Issues in modern political thought, especially British Empiricism, Liberalism (seventeenth century) and philosophical radicalism/ utilitarianism (nineteenth century). The reception of classical antiquity in modern European historiography. Contemporary research interests include theories of democracy and the interpretation of Platonic political philosophy.

**• Antonis Ellinas, Associate Professor**

Comparative politics: political parties, bureaucracies, media, political trust.

**• Joseph S. Joseph, Professor**

Holder of Jean Monnet Chair. International Relations and European Integration with emphasis on issues and aspects related to Cyprus. Focus on domestic setting and the international implications of the Cyprus problem and the relations of Cyprus with the European Union. International Law, Foreign Policy and International Organisations.

**• Savvas Katsikides, Professor**

Holder of Jean Monnet Chair. Industrial Sociology, Sociology of Technology, the Relation between Technology and Society, Theoretical Sociology, Sociology of Work and Research Methods, European Economic and Social Integration, Basic Research in Sociological Theory.

**• Iasonas Lambrianou, Assistant Professor**

Quantitative Methods and Measurement in Social Sciences, Sociology of Education, Political Trust and Participation.

**• Caesar V. Mavratsas, Associate Professor**

The social construction of ethnic and national identity. The comparative-historical analysis of nationalist ideology, with an emphasis on Cyprus and Greece. The distinction between the production and the consumption of ideology. The internal constitution of the Greek Diaspora. The economic culture of ethnic

groups in the USA. The formation and intergenerational evolution of Greek-American economic and political culture. Specialized areas in political sociology include civil society and relations of patronage. The sociology of knowledge, with an emphasis on the consciousness of everyday life.

• **Yiannis Papadakis, Professor**

The study of nationalism in a comparative-historical perspective as a process of interaction and negotiation through social action. The construction and contestation of social memory through commemorative rituals. Structure and characteristics of historical narratives. Representations of the past in museums. The relation between language and dialect. The social negotiation of conflict, danger, uncertainty. Fieldwork has been conducted in Nicosia (both sides), Turkey, Pyla.

• **Victor Roudometof, Associate Professor**

Globalization and International Studies, American and European Studies, Sociology of Religion, World-Historical and Comparative-Historical Sociology and World History, Cultural Studies, Political Sociology, especially nationalism and ethnicity in the Balkans and the Ottoman Empire, Race, Ethnicity, Transnationalism and International Migration.

• **Stavros Tombazos, Associate Professor**

Political Economy with emphasis on issues and aspects related to globalization, European political and economic integration, systems of international hegemony and dependence, sustainable development, and the relation between economic dynamics and ecological problems. Political Philosophy with focus on the German political theories of the 19th and 20th centuries. Other research interests in the areas of theories of the state and of social classes, civil society and social movements.

### Contact Details

#### Coordinator of Postgraduate Studies

Yiannis Papadakis  
Professor  
Tel.: 22894569  
E-mail: papada@ucy.ac.cy

#### Department Secretariat

Elena Petridou-Challouma  
Tel.: 22894560  
Fax: 22894559  
E-mail: elenap@ucy.ac.cy

Stavroula Stavrou Sofroniou

Tel.: 22894561  
Fax: 22894559  
E-mail: sofroniou.stavroula@ucy.ac.cy  
[www.ucy.ac.cy/sap/en](http://www.ucy.ac.cy/sap/en)



# Appendices

- Academic Calendar / Retail Centre
- Organization Chart
- Governing Bodies
- Members of the Governing Bodies
- Maps
- Telephone and Fax Directory

## ACADEMIC CALENDAR

The academic calendar is available on the University's website at [www.ucy.ac.cy/calendar-en](http://www.ucy.ac.cy/calendar-en)

## RETAIL CENTRE

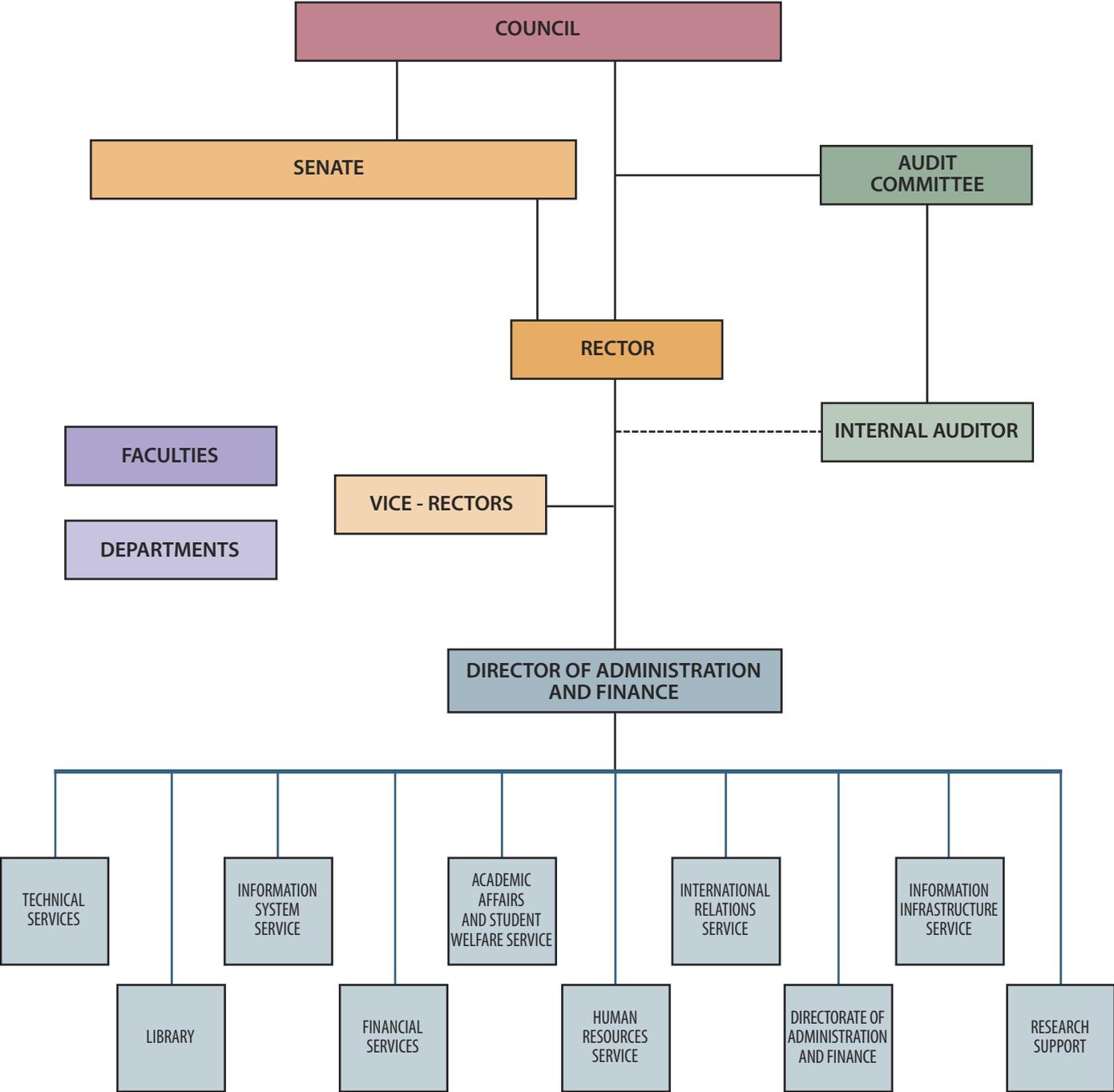
The following stores are located on the University Campus:

- **Bank of Cyprus - Branch**  
Tel.: 22129832/9831
- **CCS Ledra Ltd**  
Tel.: 22129832/9831
- **Parga Book Center, UCY Copy Center, Post Office services**  
Tel.: 22022876
- **Mini Market**  
Food, beverages and various other items  
Tel.: 22895139
- **UCY Shop**  
University products, as well as books of the Cyprus University Press (CUP)  
Tel.: 22895138
- **Hairdresser/Barber ZÁC Hair Designers**  
Tel.: 22895133
- **Restaurant FeedMe by KALOPESAS**  
Tel.: 22895135

ATM machines are also located in that area.

A restaurant, a coffee shop and a pub are located at the Social Facilities Centre.

# ORGANIZATION CHART



## COUNCIL

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### EXTERNAL MEMBERS

4 MEMBERS APPOINTED BY THE COUNCIL OF MINISTERS  
3 MEMBERS APPOINTED BY THE SENATE

### UNIVERSITY MEMBERS

RECTOR (ex-officio)  
VICE-RECTORS (ex-officio)  
2 REPRESENTATIVES OF ACADEMIC STAFF  
1 REPRESENTATIVE OF ADMINISTRATIVE STAFF  
1 STUDENT REPRESENTATIVE  
DIRECTOR OF ADMINISTRATION AND FINANCE  
(ex-officio – non-voting Member)

## SENATE

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RECTOR  
VICE-RECTORS  
DEANS  
3 ACADEMIC REPRESENTATIVES FROM EACH FACULTY  
STUDENT REPRESENTATIVES (number equal to the number of Faculties)  
DIRECTOR OF ADMINISTRATION AND FINANCE  
(ex-officio – non-voting Member)  
DIRECTOR OF LIBRARY (ex-officio – non-voting Member)

## RECTORATE COUNCIL

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RECTOR  
VICE-RECTORS  
DIRECTOR OF ADMINISTRATION AND FINANCE

## FACULTY BOARD

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DEAN  
DEPUTY DEAN  
CHAIRPERSONS OF THE FACULTY'S DEPARTMENTS  
2 ACADEMIC MEMBERS FROM EACH FACULTY'S DEPARTMENTS  
STUDENT REPRESENTATIVES (number equal to the number of departments)

## DEPARTMENTAL BOARD

---

PROFESSORS OF THE DEPARTMENT  
ASSOCIATE PROFESSORS OF THE DEPARTMENT  
ASSISTANT PROFESSORS OF THE DEPARTMENT  
LECTURERS OF THE DEPARTMENT  
STUDENT REPRESENTATIVES  
(number equal to 1/3 of the total of Academic Staff)

## APPOINTMENT/ELECTION OF THE MEMBERS OF THE GOVERNING BODIES

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### Chairperson / Vice-Chairperson of the University Council

Appointed by the President of the Republic from among the external members. In cases where the Chairperson is one of the members appointed by the Council of Ministers, the Vice Chairperson will be one of the members appointed by the Senate and vice-versa.

### Rector / Vice-Rectors

Elected by the entire Academic Staff, student and Administrative Staff representatives.

### Deans / Deputy-Deans

Elected by the members of the Faculty's Departmental Boards.

### Chairperson / Vice-Chairperson of Departments

Elected by the Departmental Board.

### Academic Staff Representatives on the Council

Elected by the Academic Staff.

### Academic Staff Representatives (by Faculty) on the Senate

Elected by the Faculty Board.

### Academic Staff Representatives (by Department) on the Faculty Board

Elected by the Departmental Board.

## MEMBERS OF THE GOVERNING BODIES

### SENATE

Constantinos Christofides,  
Rector, Chairman

Athanasios Gagatsis,  
Vice-Rector for Academic Affairs

Constantinos P. Constantinou,  
Vice-Rector for International Affairs, Finance and Administration

Andreas Charitou,  
Dean of the Faculty of Economics and Management

Christoforos Hadjicostis,  
Dean of the Faculty of Engineering

Anastasia Nikolopoulou,  
Dean of the Faculty of Humanities

Michalis Pieris,  
Dean of the Faculty of Letters

Nicolas Pavlides,  
Interim Dean of the Faculty of Medical School (observer, non-voting Member)

George Papadopoulos,  
Dean of the Faculty of Pure and Applied Sciences

Savvas Katsikides,  
Dean of the Faculty of Social Sciences and Education

Charis R. Theocharis,  
Dean of the Graduate School

Sofronis Clerides,  
Faculty of Economics and Management

George Nishiotis,  
Faculty of Economics and Management

George Kassinis,  
Faculty of Economics and Management

Christos Hatzichristos,  
Faculty of Engineering

Ioannis Giapintzakis,  
Faculty of Engineering

Ioannis Ioannou,  
Faculty of Engineering

Theocharis Stavrides,  
Faculty of Humanities

George Floros,  
Faculty of Humanities

Fabienne Baider,  
Faculty of Humanities

Vasiliki Kassianidou,  
Faculty of Letters

Antonis Tsakmakis,  
Faculty of Letters

Ioulia Chajdipanayioti,  
Faculty of Letters

Ioannis Paschalides,  
Faculty of Pure and Applied Sciences

Efstathios Paparoditis,  
Faculty of Pure and Applied Sciences

Marios D. Dikaikakos,  
Faculty of Pure and Applied Sciences

Nikitas Hatzimichael,  
Faculty of Social Studies and Education

Leonidas Kiriakidis,  
Faculty of Social Studies and Education

Georgia Panayiotou,  
Faculty of Social Studies and Education

Charalambos Christodoulou, Student Representative

Kyriakos Kotziamani, Student Representative

Marios Manoli, Student Representative

Charalambos Pantazis, Student Representative

George Pogiatis, Student Representative

Andreas Siengas, Student Representative

Photis Trimbakkiros, Student Representative

George Lamprianou,  
Director of Administration and Finance -Secretary, non-voting Member

Elena Diomidi Parpouna,  
Deputy Director of Library, non-voting Member

### COUNCIL

Manthos Mavrommatis,  
Chairman

George David,  
Vice-Chairman

Constantinos Christofides,  
Rector

Athanasios Gagatsis,  
Vice-Rector for Academic Affairs

Constantinos P. Constantinou,  
Vice-Rector for International Affairs, Finance and Administration

Christos Papaellinas,  
Member

Andreas Panayiotou,  
Member

Alexandra Galanou,  
Member

Nataly Partasidou,  
Member

Pandora Tserioti,  
Member

Christis Hasapis,  
Member

Christos Schizas,  
Member

President of Students' Union,  
Member

Christos Charalambous,  
Representative of Administrative Staff, Member

George Lamprianou,  
Director of Administration and Finance,  
Secretary, non-voting Member

### ADMINISTRATIVE SERVICES

DIRECTOR OF ADMINISTRATION AND FINANCE  
George Lamprianou

ACADEMIC AFFAIRS AND STUDENT WELFARE SERVICE  
Androulla Theophanous, Head

FINANCIAL SERVICES  
Kleanthes Pissarides, Deputy Head

HUMAN RESOURCES SERVICE  
Glafkos Christou, Head

INFORMATION SYSTEMS SERVICE  
Agathoclis Stylianou, Head

INFORMATION INFRASTRUCTURE SERVICE:  
Christos Charalambous, Coordinator

INTERNATIONAL RELATIONS SERVICE  
Elena Avgoustidou-Kyriacou  
Elena Zomeni (by rotation)  
Deputy Head

LIBRARY  
Elena Diomidi Parpouna, Deputy Director

RESEARCH SUPPORT SERVICE  
George Lamprianou, Coordinator

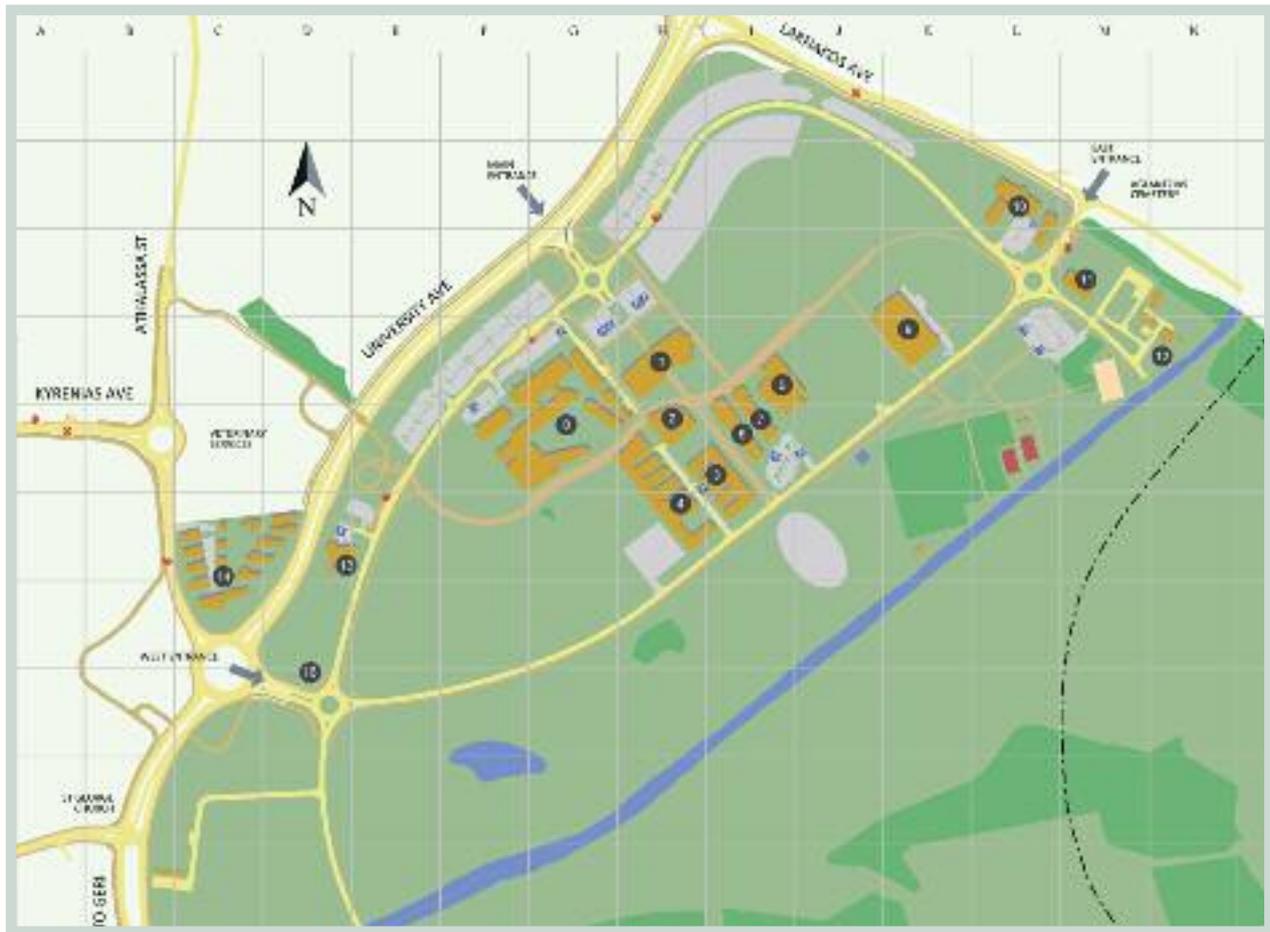
TECHNICAL SERVICES  
Agis Elisseos, Head

# UNIVERSITY BUILDINGS



For detailed maps: [www.ucy.ac.cy/maps-en](http://www.ucy.ac.cy/maps-en)

# UNIVERSITY CAMPUS



- |  |   |
|--|---|
| 1. University House "Anastasio G. Leventis" (ADM 01) | 9. Indoor Sports Hall (SPF 01)                        |
| 2. Common Teaching 01 (CTF 01)                       | 10. Services Buildings (SBD)                          |
| 3. Faculty of Pure and Applied Sciences (FST 01)     | 11. Energy Centre (ENC)                               |
| 4. Faculty of Pure and Applied Sciences (FST 02)     | 12. Photovoltaic Research Lab                         |
| 5. Common Teaching 02 (CTF 02)                       | 13. Campus Supplementary Offices (CDO)                |
| 6. Faculty of Economics and Management (FEB 01)      | 14. Residential A (SRA 01-14)                         |
| 7. Faculty of Economics and Management (FEB 02)      | 15. Outdoor Sports Activities (SPF 02, 03, 08-15, 20) |
| 8. Social Facilities Centre (SFC)                    | 16. Photovoltaic Park "Phaethon" (PVP 01)             |

## CENTRAL CAMPUS (KALLIPOLEOS AVENUE)



1. Department of History & Archaeology (D)
2. Restaurant (A)
3. Dean of the Faculty of Letters/  
School of Modern Greek (A)
4. Lecture Rooms (A)
5. Assembly Hall (A)
6. Library (A)
7. Engineering Labs (A)
8. Information Systems Service/  
Information Infrastructure Service (P)
9. Dean of the Faculty of Humanities/  
Department of English Studies (M)
10. Gymnastics room (N)
11. Wing E (Library / Lecture Rooms) (E)
12. Chapel
13. Wing B (EDU Labs) (B)
14. Restaurant Utilities (G)
15. Main Server Room (S)
16. Labs (L)
17. Dean of the Faculty of Social Sciences and Education/  
Department of Psychology
18. Department of Turkish and Middle Eastern Studies

# TELEPHONE AND FAX DIRECTORY

	TEL.	FAX
University Council Chairperson Office	22894350/4011	22894470
Rector's Office	22894008	22894469
Vice-Rector's Office (Academic Affairs)	22894003	22894468
Vice-Rector's Office (International Relations, Finance and Administration)	22894005/6	22894467
Director of Administration and Finance Office	22894013	22894470
Call Center	22894000	

## FACULTIES

Economics and Management	22893610	22895032
Engineering	22892233	22895471
Graduate School	22894044	22894438
Humanities	22894423	22895046
Letters	22892008	22892009
Medical School	22894352	22895396
Pure and Applied Sciences	22892786	22892810
Social Sciences and Education	22893421	22895045

## ADMINISTRATIVE AND OTHER SERVICES

Academic Affairs and Student Welfare Service	22894021	22894463
Financial Services Services	22894106	22894465
Human Resources Service	22894177	22894480
International Relations Service	22894288	22894472
Library	22892020	22895495
Technical Services Services	22894200	22894464
Canteen (University House "A.G. Leventis")	22894425	
Canteen / Restaurant (Central Campus)	22892006	
Centre of Continuing Education, Assessment and Development (K.EΠ.E.A.)	22894151	22895060
Centre of Teaching and Learning	22894546	22894548
Cultural Centre (Axiothea Mansion)	22894531	22895053
Health Centre (Central Campus)	22895280	
Health Centre (New Campus)	22895270	
Information Systems Service	22892130	22894434
Information Infrastructure Service	22895100	22895520
Legal Counsellor of the University	22894145	22894480
Security (Central Campus)	22892011	
Security (New Campus)	22894055	
Sports Centre	22894182	22894190
University of Cyprus Radio Station (UCY Voice)	22895140	22895064
UCY Shop	22895138	

	TEL.	FAX
<b>ACADEMIC DEPARTMENTS / RESEARCH UNITS</b>		
Accounting and Finance	22893605/36	22895475
Archaeological Research Unit	22893560	22895057
Architecture	22892960/80	22895056
Aula Cervantes Nicosia	22895136	22895014
Biological Sciences	22892880/94	22895095
Byzantine and Modern Greek Studies	22893870/80	22894490
Center for Applied Neuroscience	22895190	22895076
Centre for Banking and Financial Research	22892496	22892421
Centre for Teaching and Learning	22894546	
Center for the Study of Gender	22892959	22894488
Center of Entrepreneurship	22895110	22895055
Chemistry	22892780/2800	22892801
Civil and Environmental Engineering	22892200/49	22895080
Classics and Philosophy	22893850	22894491
Computer Science	22892700	22892701
Confucius Institute at UCY	22895123	22895297
Economics	22893700/01/02	22895028
Economics Research Centre	22893660	22895027
Education	22892940	22894488
Electrical and Computer Engineering	22892240	22895079
English Studies	22892101/02	22895067
French and European Studies	22894370	22894387
History and Archaeology	22892180	22895068
International Water Research Center "NIREAS"	22893515	22895365
Language Centre	22892901	22894439
Law	22892920	22892910
Mathematics and Statistics	22892600/3921	22895072
Mechanical and Manufacturing Engineering	22892280/48/50	22895081
Nanotechnology Research Center	22892280	22895081
Oceanography Centre	22893512	22895365
Public and Business Administration	228923650	22895030
Research Center for Intelligent Systems and Networks «KIOS»	22893450	22893455
Research Centre for Molecular Medicine	22892882	22895371
The Research Centre for Sustainable Energy (RCSE)	22892272	22895079
Turkish and Middle Eastern Studies	22893950	22895040
The Petrondas Institute of Modern Greek Studies	22893825	22895016
Physics	22892820/2826	22892821
Psychology	22892070/86	22895075
School of Modern Greek	22892028	22895066
Social and Political Sciences	22894561/60	22894559
University Centre for Field Research	22895257	

## STUDENT UNION

Students' Union Office	22894026	22894485
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Postgraduate Prospectus 2017-2019