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In today’s competitive context, graduate studies are seen as a necessary extension of a society’s tertiary education. The pursuit of graduate studies, whether for purposes of specialization or for further delving into a research subject, is crucially important, as it determines the professional development and 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 Cypriot society, has encouraged all departments to add programmes of graduate studies at both master and doctoral levels. Specifically, the University currently offers 52 graduate programmes at the master level and 37 at the doctoral level, in 21 departments. At present there are 1548 students enrolled in graduate studies.

The University anticipates the further growth of its graduate education with the establishment of the Graduate School, which is soon expected to be approved by the Parliament. The Graduate School, which will be based on European specifications and fully attuned to the performance standards of renowned international research institutions, will contribute to consolidating existing postgraduate education while simultaneously strengthening the University’s research productivity and its links with the world’s best universities.

Presently, through the existing graduate programmes of the University of Cyprus, students have the opportunity to either specialize in an area directly related to their first degree or, alternatively, to expand their knowledge to areas outside their first degree. An inextricable part of graduate education is the acquisition of skills for continuous learning and research.

The University encourages excellence in academic performance by awarding an array of scholarships annually. 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, employed in local enterprises as well as in international research centres.

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

Professor Constantinos Christofides
Rector
## Contents

Message from the Rector 3
General Information 6
Postgraduate Studies 16

### FACULTY OF HUMANITIES

- Department of English Studies 30
- Department of French Studies and Modern Languages 34
- Department of Turkish and Middle Eastern Studies 42

### FACULTY OF PURE AND APPLIED SCIENCES

- Department of Biological Sciences 48
- Department of Chemistry 62
- Department of Computer Sciences 74
- Department of Mathematics and Statistics 82
- Department of Physics 94

### FACULTY OF SOCIAL SCIENCES AND EDUCATION

- Department of Education 102
- Department of Law 130
- Department of Psychology 132
- Department of Social and Political Sciences 152

### FACULTY OF ECONOMICS AND MANAGEMENT

- Department of Economics 160
- Department of Public and Business Administration 170
- Centre for Banking and Financial Research 186

### FACULTY OF ENGINEERING

- Department of Architecture 190
- Department of Civil and Environmental Engineering 196
- Department of Electrical and Computer Engineering 210
- Department of Mechanical and Manufacturing Engineering 220

### FACULTY OF LETTERS

- Department of Byzantine and Modern Greek Studies 236
- Department of Classics and Philosophy 242
- Department of History and Archaeology 246
- Interdepartmental Programme in Byzantine Studies 256

### Appendices

- Calendar of Academic Year 268
- Organogrammes 269
- Maps 272
- Telephone and Fax Directory 276
The University of Cyprus was established in 1989 and admitted its first students in 1992. Admission to the University is by national entrance examinations and the competition for places is intense. Many University of Cyprus graduates have been accepted for postgraduate studies - most with full scholarships - in some of the most reputable universities internationally.

**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 simply accumulation of knowledge. It must also encourage students’ active participation in the process of learning and acquisition of those values 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. This research may also involve undergraduate and postgraduate students, and research assistants.

The University’s research programmes cover a wide range of fields that correspond to existing specialisations and departments. They are funded either through the University’s budget or by institutions in Cyprus (such as the Leventis Foundation, the Cyprus Research Foundation) and abroad. European Union projects (including the 7th Framework Programme, INTERREG, COST, ERC, EUROMED, HERITAGE, LEONARDO, MEDA, LLP) constitute the majority of externally funded projects. For the achievements of the academic staff in research and innovations the University of Cyprus is recognised through international awards and it is favourably classified after international evaluation.

The University is a member of a number of international university organizations 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 programmes that are specifically aimed at the needs of Cypriot 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 to conducting rigorous and innovative research. The research centres and units aim to develop research at a local, European and international level in their specific scientific fields, and attract a large number of research programmes, funded by research promotion organisations in Cyprus and abroad. Research programmes 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 Gender Studies
- Economics Research Centre
- Centre for Banking and Financial Research
- Hephaistos Nanotechnology Research Centre
- Kios Research Centre for Intelligent Systems and Networks
- International Water Research Institute
- Oceanography Centre

**The Academic Staff**

The academic faculty is international, comprising Greek- and Turkish-Cypriots as well as scholars recruited from abroad.

**Governing Bodies**

The University is a public corporate body. It is 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
- Financial Services
- Human Resources
- Information Systems Services
- Library
- Research and International Relations Services
- 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 assists 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 in the recently built facilities at the new University Campus, the former Pedagogical Academy of Cyprus, in other owned or rented buildings as well as a cluster of buildings at Latsia. 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. In this Campus, two additional buildings have been constructed: the New Wing (Building E) and the recently completed 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 completion of the permanent Campus (see relevant Appendix).

The Campus Development Office was established to supervise the project of the New Campus and is responsible for its management, coordination and development. Architectural competitions ensure that the University secures the best designs and construction management for the various buildings on the New Campus. Upon completion, the University Campus will be able to accommodate a total of 10,000 students.

To date, the basic infrastructure of the University Campus, as well as the Services and Stores Buildings, the Student Residences (Phase 1a), the Faculty of Pure and Applied Sciences including the Common Teaching Facilities, the Anastasios G. Leventis University House, which houses the management and most of the administrative services of the University, and the Sports Facilities, are already operating. In October 2009, the extension of the Faculty of Pure and Applied Sciences was completed. It will temporarily house the Department of Biological Sciences and other operations of the Faculty.

According to the projects work flows, in 2010, the construction works of the Faculty of Economics and Management including the Common Teaching Facilities II and the Social Facilities Centre will be completed. The design for the Learning Resource Centre “Stelios Ioannou” has been finalised and tenders for the construction works will be announced within 2011. Construction works for the multilevel parking will also commence in 2011. In 2010 the architectural competition of the permanent facilities of the Faculty of Engineering will be completed and its design will be assigned. The architectural competition of the Department of Biological Sciences and the Common Teaching Facilities III will follow shortly.

**LIBRARY**

The University of Cyprus Library’s mission is to create and support a reliable information environment that will enhance learning and progress at the University of Cyprus and society more generally, and to develop strategies and systems through which the facilitation of the diffusion of world scientific knowledge will be promoted.

More than 240,000 titles (corresponding to more than 300,000 items of material), with an annual increase of about 12,000 new items, are housed in the Library.

The catalogued books are searchable via the integrated Library system, either from all computers connected to the campus network or remotely, through the online public access catalogue (WEB-OPAC) operated by the Library (http://library.ucy.ac.cy).

The Library is a fully electronic library (concerning its operation) and a hybrid library (concerning its content). It contains print, non-print, audiovisual and digital material, as well as facilities for the reproduction of material into Braille for blind users.

**Recognised for Excellence**

In 2009 the Library achieved, as an administrative unit, the European Foundation for Quality Management (EFQM) award “Recognised for Excellence in Europe” with 3 stars. This distinction is the second out of three EFQM award levels regarding the administration and management of organizations or parts of them.

**Digital Library**

The Digital Library consists of the following subsystems:

- electronic journals - approximately 30,000 titles, of which 12,000 are mainly available through HEAL-link (Hellenic Academic Libraries Link); 86 Greek literary and philological journals of the 19th and 20th centuries from the Hellenic Literary and Historical Archive (ELIA), and also the Journals Archive of the Royal Society of Chemistry.
- 173 bibliographic databases, statistical and economic databases, full-text collections, etc.
- 30,000 electronic books of Netlibrary (5,179 titles), books and book series from publishers such as Elsevier
(2,800 titles), Springer (12,000 titles), Taylor and Francis (500 titles), Safari Books (8,000 titles), Royal Society of Chemistry (850 titles), Hague Academy Collected Courses (330 titles), dictionaries like Oxford Reference Online (100 titles of reference works), IEEE Conference Proceedings (450 titles) and 100 collections which include 200,000 electronic books and doctoral theses freely accessible through the internet.

- Online Public Access catalogue (Web-OPAC).
- 400 useful internet links, organized into structured indexes.

The digital library also provides general information regarding the operation of the Library such as services offered, hours of operation, personnel contacts and links to other Cypriot and international libraries.

The Library participates in the HEAL-link (Hellenic Academic Libraries Association) and CALC (Cyprus Academic Library Consortium), through which journals/database subscriptions and acquisition of automated systems of information organization are undertaken in cooperation. This will ensure the rational growth of the various collections between the members, saving of resources and access to a larger number of sources.

The Library is a member of KEBEP (Cyprus Association of Librarians – Information Scientists), EEBEP (Association of Greek Librarians and Information Scientists) and the international Organizations UNICA, IFLA and LIBER.

Collaborating with local organizations like SIMAE (Council of Historical Memory of EOKA 1955-1959), KEE (Cyprus Research Centre), Cyprus Library, etc, the Library has undertaken the digitisation of their archives and collections. The digital collection of SIMAE and an indicative sample of the KEE collection, which hold works of historical and political interest, are freely available via the Library’s website.

The Library created the Greek Library and Information Science Database (E.Vi.Va), which contains the proceedings of the Pan-Hellenic Conferences of Academic Libraries, journal articles, conference and meeting presentations in Greece on the subject of Library and Information Science. The database is freely accessible through the Web, from the Library’s website.

Library Collections and Services

Main Library

(a) Section of Open Stacks and Reading Room
This section includes the main open access collection of books, organized by subject categories according to the Library of Congress Classification System. It has 200 seats available for Library readers, as well as an electronic reading room for access to all the subsystems of the digital library. Lending and photocopy facilities are provided.

The main Library houses among others, the following collections: Browning, Dakin, Diamantis, Dervis, the former Pedagogical Academy Collection and the Dimitsopoulos Collection. The Library subscribes to both the Greek and the foreign press.

(b) Reference Material Collection
Apart from the electronic reference collections, which are accessible through the Digital Library within the University network, printed reference materials such as encyclopaedias, interpretive and biographical dictionaries are also available.

(c) Audiovisual Material Collection
This collection includes audio cassettes, videocassettes, diskettes, CDs, vinyl discs, slides, microfilms, microfiches, DVDs and maps as well as the equipment required for educational and research use of this material. This section contains a total of 9,000 titles.

(d) International Cooperation and Interlibrary Loan (ILL) Service
Collaboration has been established with international networks (Interlibrary Loan Network of Hellenic Academic Libraries, the Interlibrary Loan Network of the National Documentation Centre (NDC), SUBITO from Germany, British Library, INIST from France, etc.) to ensure the availability of books or journal articles not included in the Library collection. Articles are also sent from the Library in response to application requests from other libraries in Cyprus and abroad.

(e) Library and Information Services for Blind and Visually Impaired Users
Since 2000, an adaptive workstation has been 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.

Blind users are able to read and send e-mails, surf the Internet, search the Library’s OPAC, search databases, read journal articles and study electronic books. The refreshable Braille display, special magnification software and/or the transformation of the screen texts into acoustic format through the speech synthesizer facilitate reading.

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 users. In 2005 the Library became a member of DAISY Consortium.

(f) Ask a Librarian Services

By instant chatting

Ask a Librarian by instant chatting is intended for registered library members (UCY administrative and academic staff, UCY students and external users) and non-registered members, who have brief and specific reference questions related to the collections, resources and services of the UCY Library. Replies are sent via real time chat.

The reference staff is available to chat between 8:30-13:30, Monday – Friday, excluding holidays.

By appointment

Ask a Librarian by Appointment allows library members to schedule a research consultation appointment for: individual assistance in locating the appropriate print and electronic resources for a particular topic; individual introduction to the UCY Library catalogue and collections; information on using UCY Library resources, including databases and Refworks; assistance in searching library catalogues, indexes and the Web.

The service is available primarily to University of Cyprus students, staff and faculty and, as time permits, to users outside the UCY community.

(g) Information Literacy

The Library organises training seminars to familiarise users with its facilities and services. The seminars are complemented by orientation tours and scheduled workshops on specific tools and topics which, enable users to understand the particularities of the various Library facilities and thus improve their research abilities.

Periodicals Library

The Periodicals section is located in the New Wing of the University campus on Kallipoleos Street. Using the system of mobile shelving units, it provides 5,200 printed scholarly journals, 4,000 of which are foreign language journals and 1,200 are Greek language journals.

The collection is organized by general subject categories according to the scientific needs of the academic community and alphabetically by title within each category. The collection of electronic journals includes 30,000 titles, from subscriptions, full-text databases and through the Library’s participation in the Hellenic Academic Libraries Association (HEAL-link) and CALC (Cyprus Academic Library Consortium). It also includes Open Access titles which are freely available through the Internet, as well as approximately 150 Greek titles.

The Library provides workstations for access to electronic sources, a reading room, lending facilities and photocopy machines for reproduction according to the existing copyright law.

Library Branches and Collections

A. Archaeological Collection (12 Gladstones Street)

A significant collection of archaeological material is housed at the Archaeological Research Unit. The collection serves the needs of its researchers and members of the academic community.

The collection, which is not lending, consists of 23,000 archaeological books and 400 periodical titles, as well as the D. Pallas Byzantinological Collection.

The library branch provides workstations for access to the electronic sources of the Library, a reading room and photocopy machines.

B. Turkish Studies Collection (10 Halkokondili Street)

The significant collection of 20,200 turcological books and 800 periodical titles make up the Turkish Studies Collection, which aims to meet the educational and research needs of the Department of Turkish and Middle Eastern Studies, as well as external researchers. The
Library includes the collections of Halasi-Khun Tibor, Andreas Tieze and Louis Bazin and the daily Turkish-Cypriot Press.

The library branch provides workstations for access to the electronic sources of the Library, a reading room, lending facilities and photocopy machines.

**C. Strovolos Branch (58 Bethlehem Street)**
The Library branch is a closed access collection (not accessible to the users). This branch holds material that has been assembled due to lack of space at the Main Library. Following an application by the user, the material is transferred to the Main Library on a regular basis.

**D. Larnakos Avenue Branch (167 Larnakos Avenue)**
In order to serve better the members of the academic community, the Library has set up a branch near the new University Campus, on Larnakos Avenue. This branch mainly houses the collection of pure and applied sciences, and is open to the public and offers reading space for 15 users, circulation and photocopying facilities.

**Using the Library**
All members of the University of Cyprus are entitled to use the Library (students, academic faculty, researchers and administrative staff) provided they have acquired a University library card, which allows access to all collections and branches of the Library.

**External Users**
The reading rooms and open-stack books are also available to external users not affiliated with the University of Cyprus. External users are given borrowing rights upon approval of their application and payment of the annual membership fee.

**"Stelios Ioannou" Learning Resource Centre**
The UCY Library will soon be housed in a new building, the “Stelios Ioannou” Learning Resource Centre, named in honour of the donator’s spouse. The building has been designed by the renowned French architect Jean Nouvel, and construction is scheduled to begin in January 2011. The building is expected to be completed and fully operational in 2015.

**INFORMATION SYSTEMS SERVICE**
The Information Systems Service (I.S.S.) provides computing and information technology services to the entire University. The services focus on hardware (supply and maintenance) as well as software and applications.

The services are intended for general use, such as networking, printing, electronic mail, and office applications, as well as customized use, such as the developing of specific ‘tailor’-made applications, depending on the specific needs that are presented at any given time.

Because the University is continually developing, and because IT and computing are rapidly expanding fields, the University operates in a very dynamic environment. The mission of the Information Systems Services is thus to continuously evaluate and introduce new technologies so that the University operates with the utmost efficiency (regarding both cost and operations). Additionally, the I.S.S. is responsible for maintaining in secure and good working order the current information technology services and systems that are required to carry out all academic and administrative activities.

**Information Security Office**
The aim of the Information Security Office is to provide solutions to security incidents and to offer proactive security analysis, development, education, and guidance relating to the University’s information assets and information technology environment. It manages security systems to prevent malicious attacks, viruses, spam and unauthorised usage. The Information Security Office continuously monitors various security announcements and informs the University community of potential risks or forthcoming security-related problems.

**Network Sector**
The aim of the Network Sector is to provide advanced network services and to create, manage and maintain the network that interlinks all the buildings of the University. Objectives are to achieve the easy-wired and wireless secure connectivity of any user with the voice and data network, and to plan future upgrades of the network according to the functional requirements of users and technological developments.
The Network Sector also offers multimedia services concerning audio and video transfer like teleconference services, video streaming and digital information services. Another service that the Network Sector provides is the audiovisual covering (video and photography) of the University events followed by the editing and post-production manipulation of the digital material.

**Systems and Applications Management Sector**

The Systems and Applications Management Sector (SAMS) is responsible for the provision and support of the main information infrastructure of the University of Cyprus through the study, introduction and application of new technologies. This sector currently consists of the offices mentioned below:

- Central Systems and Applications Support Office
- Unified and Automated Services Support Office

The major services offered to the students by SAMS are:

- E-mail
- Issuance of usernames and passwords (for access to the laboratories, the e-mail, the Banner class registration system, the BlackBoard software, the VPN remote connection service and others)

**New Technologies and Education Sector**

The aim of the New Technologies and Education Sector is the implementation and application of the capabilities offered by new technologies and the internet. The sector aims to provide continuous education and training to the university community, eventually leading to an increase in the use of personal computers and office tools, thus an increase in productivity.

**Education Office**

The aim of the Education Office is the continuous education and training of the university community in the area of Information Technology services and tools. An example of the services of the Education Office is the “crash” course for using Microsoft Office offered to first-year students.

**E-University Office**

The e-University’s objective is to facilitate the implementation of the University’s strategic development plan.

The e-University provides access to information to students, academic staff, administrative Staff and collaborators. It also aims to improve Student, Administrative and Financial Services and to promote knowledge sharing and collaboration in learning and research.

**e-Services Team**

**Internet Applications**

The team is responsible for the development of applications which are linked with databases.

**e-Learning**

The Information Systems Services and the e-Services team support the e-Learning system of the academic community of the University by installing and maintaining blackboard e-learning systems. These systems enhance the education of students by providing alternative means of communication not only between professors and students, but also among students.

**Website Development**

The team is responsible for creating new websites for the Services and Departments of the University. These websites are based on the standards for developing websites that are set by the University.

**Users Support Sector**

**Help Desk / Service Desk**

A computerised Service Desk/Help Desk now functions within the Information Systems Services. The Service Desk Management system manages, tracks and monitors all service requests such as:

- Network, internet requests
- Security incidents
- System requests
- Application requests
- Operational incidents
Central Laboratories
The Office of Laboratories manages four computer laboratories, each equipped with 120 personal computers. Two of the computer laboratories are located at the Old Campus, one is at the New Campus and one is at the Latsia branch.

The Office of Laboratories is responsible for the smooth operation of the computer equipment and the software installed at the computer laboratories. Beyond the maintenance of the systems, one of the primary objectives of the Office of Laboratories is the continuous and qualitative upgrading of the services to the university community. To this end, the Central Active Directory server has been connected with the central LDAP server so that all users have a unified account for access to all general use laboratories as well as their e-mail and other services offered to them via the LDAP service.

Domain Name Service (.cy)
The University of Cyprus is the official registrar for all Internet Top Level Domain Names ending in .cy and manages the CY domain as a service to the Internet community in Cyprus.

INTERNATIONAL RELATIONS
The University is a member of the European University Association (EUA), the Association of Mediterranean Universities (UNIMED), the Network of Universities from the Capitals of Europe (UNICA), the Association of Commonwealth Universities (ACU), the International Association of Universities (IAU), the Association of Arab and European Universities (AEUA), the Santander Group (SG), LEO-NET, the European Association of Erasmus Coordinators (EAEC) and others. The University has also established close contacts with numerous international organisations, including the European Commission (DG Research 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. Notably, the Rector of the University of Cyprus has been elected as President of the UNICA Network for the period 2008-2011. Moreover, a number of the University’s academic and administrative staff participates in UNICA working groups to promote issues of topical interest to universities worldwide.

The University of Cyprus has signed Bilateral Agreements of Cooperation with around 110 universities in Europe, Australia, Middle East, Asia, USA, and Canada. 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.

The University of Cyprus maintains close links with the Cypriots and Greeks of the Diaspora. Every year, a representative from the University addresses the NEPOMAK Conference Opening Ceremony. Further, in cooperation with the Ministry of Education and Culture, the University of Cyprus offers every year in July the Educational Programme for Teachers of the Diaspora, where Greek and Cypriot teachers from the USA, the UK and Canada are hosted by the University for three weeks and participate in an intensive Greek language teaching course.

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, and is financed by the Republic of Cyprus.

The University of Cyprus has been working to attract 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 programmes of study are being offered in English.

LECTURES / CULTURAL ACTIVITIES
All departments of the University organize public lectures and other events focused on issues of scholarly, scientific and wider interest. In addition, the University organizes lectures, cultural events, exhibitions, concerts and other activities open to the general public. Our 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.

The University, in cooperation with the Municipality of Aglantzia, organizes a series of lectures open to the public, which is known as the “Free University” at Skali Aglantzias, whereas in cooperation with the Larnaca Municipality it operates the “Zenonion Free University”. The University of Cyprus has also expanded the “Free University” scheme to cover Limassol (in cooperation with the Municipality of Famagusta), Pafos (the “Ierokipeion Free University”, in cooperation with the Municipality of Yeroskipou) and the Cypriot Diaspora in London.

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

**PUBLICATIONS**

In order to provide comprehensive information to the public, students and prospective students, and the international academic community, the University of Cyprus produces a wide range of publications. These include an annual undergraduate and postgraduate prospectus in Greek and English, publications on the research activity at the University, the University Annual Report, information leaflets and other material. A University magazine is published every six months and a newsletter is published every two months. “Apofoitos”, the Alumni Relations University magazine, is issued every six months.

The majority of the publications are produced by the Publications Office of the Research and International Relations Services, but a substantial number of research and information publications are produced by the faculties, departments, research units, services and other entities of the University.

The Cyprus University Publications form another aspect of the publishing activity of the University of Cyprus. The University of Cyprus in collaboration with Ellinika Grammata (Mesogios Press) of Greece has published 18 books in the areas of literature, science, art. As of May 2010, the Cyprus University Publications collaborate with Gutenberg Publications; the agreement aims at creating a joint publishing venture between the University of Cyprus and Gutenberg Publishing House and it is based on the parties’ common understanding of publishing as an act of contribution to culture and tradition. The common goal of the collaborators is to produce and promote publications of high standard and of high quality in the fields of science, art, culture and social awareness.

**CULTURAL CENTRE**

Pursuing its commitment to promote culture, the University of Cyprus has established a Cultural Centre under the Faculty of Letters, which is located at Axioteas Street, in the historic centre of Nicosia. Carefully restored by the Department of Antiquities, the Centre’s building, an old mansion, serves as the home of the University’s cultural activities.

The Centre houses the University of Cyprus Theatrical Workshop (THEPAK), which brings together students, but also members of the academic and administrative staff, alumni, friends of the arts, artists, etc. The Workshop strives to upgrade theatre activities within the University, and contributes to cultural life in Cyprus by staging Medieval and Renaissance works focusing on peripheral Hellenism.

The Axioteas Mansion is also the venue for the Cultural Festival of the University of Cyprus, an international event which is organised twice a year and focuses on Mediterranean culture, dance and music. With its rich and varied programme, which includes concerts, theatre and dance performances, exhibitions and lectures on different subjects, the University’s Cultural Centre has earned a respectable place on the cultural map of Cyprus.
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.

### 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 help and advice.

The programmes of study of the University of Cyprus are based on the European Credit Transfer System (ECTS). An ECTS normally corresponds to a 25-30 hours workload per semester. Full-time status requires a course load of 21 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, a programme may also be offered in an international language, provided it is already offered in one of the two official languages (the following departments are exempted from this rule: Department of English Studies, Department of French Studies and Modern Languages and Department of Turkish and Middle Eastern Studies).

Postgraduate studies are subject to the Postgraduate Studies Regulations. For more information, students must contact the Office of Postgraduate Studies of the Academic Affairs and Student Welfare Services (tel. 22894021) or visit the website [www.ucy.ac.cy/aasw-en](http://www.ucy.ac.cy/aasw-en).
Requirements for M.A., M.Sc. and M.Eng. Degrees
• Attendance for a minimum of three (3) semesters. The maximum period of study is eight (8) 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 (6) 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 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 in the fifth semester of studies at the latest.

• Presentation of a dissertation proposal before a three-member committee. 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 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 to the Postgraduate Studies Coordinator of the relevant department by the 15th of April of each year 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.

Applications should include the following:
1. Application form.
2. Curriculum vitae.
3. Copies of university degrees or a statement of expected graduation in the month preceding enrolment in the postgraduate programme.
4. A transcript.
5. A short statement (maximum two pages) of the student’s research goals and interests.

6. Names and addresses of professors of higher educational institutions. Applicants must request that letters of recommendation be sent directly to the Postgraduate Studies Coordinator of the relevant department.

The department may ask for additional confidential information. 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

**b. Doctoral Degree**
- Ph.D. students, holders of master degrees: Total fees €4,000
- Ph.D. students, without a master 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. Maximum tuition fees for a Ph.D. degree are €9,000.

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 Office for Postgraduate Studies of the Academic Affairs and Student Welfare Services (tel. 22894021) or visit the website [www.ucy.ac.cy/aasw-en](http://www.ucy.ac.cy/aasw-en).

Fees must be paid at the Accounts Office prior to registration. The deposit of €500 which is paid in advance, is not refundable.

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**Postgraduate Student 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.

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**STUDENT SERVICES**

**Personal Guidance and Counselling Services**

The University provides counselling services for personal and/or academic issues that may interfere with the students’ academic career. Through counselling and psychotherapy, the Counselling Office assists students with a range of issues like stress and anxiety, time management, relationship difficulties, confusion, loneliness, etc. The services are free of charge, short-term and confidential. Throughout the academic year, there are a number of presentations and workshops offered based on the students’ interests. The primary goal of this service is to assist students in developing and maximising their educational experience.

**Information Office**

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

The Office provides students with various information handouts, transcripts, certificates and application forms regarding financial aid, exemption from military obligations, change of major degree, housing, etc.

**Careers Office**

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

The connection with the labour market is mainly realised through the organization of various events like the
annual Career Day, company presentations and recruiting days, public discussions on current issues, an upcoming internships programme and much more. Furthermore, the Careers Office publishes a newsletter called Career and Studies that includes a section with vacancies for both students and graduates of the University of Cyprus. Graduates can also send their C.V. which will be 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.

**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 University.

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 at the beginning of each academic year. The 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 a restaurant and a canteen that operate on commercial terms but with controlled prices. There is also a restaurant at the Latsia Annex, and there are many small private restaurants located near the University.

Living expenses are estimated at between €700–€1,000 per month, including rent.

**Employment**

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.

**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 Special Needs**

Students with special needs 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.

**Health**

All Cypriot students of the University of Cyprus are given free medical and pharmaceutical care by all public hospitals on presentation of their student identity card. All students from E.U. member states are given free medical and pharmaceutical care by all public hospitals on presentation of their Eurocard. The University Health Centre, operating at the University central building, offers first aid, provides advice on health issues, and also organizes prevention campaigns, blood-donation drives and refers students to public hospitals.
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 the 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.

Student Clubs
There are 31 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. In turn, they can register in the clubs of their preference.

The Student Life Office 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
- Career and Study Group
- Cyprus Educational Administration Society (C.E.A.S)
- Cyprus Association for Special Education (C.A.I.E.)
- Dance
- Early Education
- Environmental
- European Club
- Experimental Workshop of Creative Expression (E.W.C.E.)
- Film
- Greek
- IEEE
- Journalists
- Karate
- Literature
- Mountain Sports
- Music
- Orthodox and Hellenic Tradition
- Photoclub
- Philosophy
- Political Studies
- Psychology
- Radio
- Sailing
- Scouting and Survival
- Sociology and Political Science
- “Terpsichorian” Music Group
- Theatre
- Volunteer Student
- 21 Grams Society
- Club of Intellectual and Table Games

Sports
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 from 07:30-22:00.
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.

The Sports Centre expects all athletes to compete in earnest and show good sportsmanship. This will ensure the positive growth of sports at the University.

**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**
The University of Cyprus will offer, from the beginning of this academic year, the following basic Student Sports Clubs:

1. Fencing
2. Squash
3. Archery
4. Futsal
5. Swimming
6. Table Tennis
7. Trampoline

There are additional programmes, which operate on a seasonal base:

1. Skiing
2. Scuba Diving
3. Windsurfing
4. Rowing
5. Water Ski
6. Any other sport which can serve the philosophy of the program.

The above programmes are only open to students; the University Community is not eligible to participate.
Sports Elective Courses
The University of Cyprus has, in the last two years, added the following sports elective courses to its educational programme:
1. Volleyball
2. Football
3. Tennis
4. Badminton
5. Basketball
6. Weight Lifting
7. Aerobics
8. Handball

Radio Station of the University of Cyprus
UCY Voice, the radio station of the University of Cyprus, was founded 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.ucy.ac.cy/ucyvoice.

All members of the university community – students, professors, 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.

Studios are fully equipped with modern and professional sound equipment. UCY Voice broadcasts on a 24 hour basis and its programmes cover the spectrum of information and entertainment with informative, musical, cultural, sports and other programmes.

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.

STUDENT EXCHANGES
Life Long Learning Programme - LLP, 2007-2013
ERASMUS Studies - ERASMUS Placements
The University of Cyprus has been participating in ERASMUS since the academic year 1998/1999. The goal of ERASMUS is the promotion of the European dimension in education and the acquaintance of students, academic and administrative staff with the different cultures that compose the European Union, within a framework of a number of activities, the most important of which is the exchange of students and staff (ERASMUS Placements, ERASMUS Teaching Assignments, ERASMUS Staff Training).

An important aim of these Actions is to establish a European consciousness, and this goal is achieved by learning the European languages, particularly those which are less widely spoken, such as Danish, Finnish, Flemish, Dutch, Italian, Portuguese and Swedish, and establishing personal contact with each others’ cultures and civilisations especially among the younger generation. Exchanges aim to promote the above objectives and simultaneously give the students the opportunity to fulfil part of their degree in other European institutions (for one or two semesters of the same academic year).

Exchanges depend upon the mutual recognition of the educational study programmes by the host and sending universities. This is achieved through the implementation of the rules set by the European Credit Transfer and Accumulation System (ECTS), which are based on transparency of information and methodology and on mutual trust and recognition of the programmes of study involved. The ECTS programme of studies comprises 60 credits per academic year, 30 ECTS per semester.

The Diploma Supplement (DS) is granted free of charge to all graduates of the University of Cyprus. The DS, which is issued by the hosting university, describes the content
and level of studies undertaken, but does not substitute for the official study title or the official transcript of courses taken / ECTS earned.

Student training placements in European companies or organizations last between 3 and 12 months and recognition is provided by the home institutions.

For further information on matters concerning the ERASMUS Action, please contact the ERASMUS Institutional Coordinator, Dr Gregory Makrides, Director of the Research and International Relations Service (e-mail: makrides.g@ucy.ac.cy, tel. +357 22894288).

**Leonardo da Vinci**

The Leonardo da Vinci Programme is an EU programme that promotes a vocational training policy in Europe and offers young university graduates the opportunity to be placed in companies or organizations in EU countries for 2-6 months.

For all types of placements, support will be provided to ensure the quality of the project. Projects must, where appropriate, address the following elements:

- Linguistic and cultural preparation
- Objectives, content and duration of the stay abroad
- Pedagogical organisation, tutoring and mentoring
- Validation of the skills acquired

In addition, the individuals who are accepted will, upon request and where applicable, be awarded the “Europass Mobility” document, which will be issued by the relevant implementing bodies, following the principles and criteria set out by the appropriate bodies of the European Union.

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**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 the Exchange Programmes and the ECTS system, please contact the Life Long Learning International Programmes Office of the Research and International Relations Service.

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**SCHOOL OF MODERN GREEK**

The School of Modern Greek of the University of Cyprus was founded in 1998 and aims to teach the Greek language to non-native speakers, nationals and foreigners, as well as to those who wish to perfect their knowledge of Greek. The School offers intensive and non-intensive courses at five different levels: a two-semester (26-week) course, which is held twice a week, September through May, and comprises of 156 teaching units; an intensive one-semester (13-week) course, which is held five times a week, September through December and January through April/May, and comprises of 195 teaching units; and an intensive 4-week summer course, offered daily from the last week of July to the third week of August.

In addition, the School offers intensive short-term courses tailored to specific needs, e.g. for descendants of Cypriot emigrants. 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. Students enrolled in the School of Modern Greek are entitled to use the Library, the Computer Centre and the sports facilities.

Members of the University of Cyprus (academic and administrative staff, non-Greek speaking students and exchange students) can attend, free of charge, any of the various courses (the intensive summer course and/or the one semester intensive course/one year non-intensive course).

The School of Modern Greek is located at 75, Kallipoleos Avenue, Nicosia.
The University consists of six faculties:

- the Faculty of Humanities with three departments and the Language Centre
- the Faculty of Pure and Applied Sciences with five departments
- the Faculty of Social Sciences and Education with four departments
- the Faculty of Economics and Management with two departments, the Economics Research Centre and the Centre for Banking and Financial Research
- the Faculty of Engineering with four departments
- the Faculty of Letters with three departments and the Archaeological Research Unit

The table overleaf lists the faculties, the departments and the degrees they offer.

On pages 30-266 there are detailed descriptions of the postgraduate programmes offered by the departments and a brief description of the research interests of the academic staff.
<table>
<thead>
<tr>
<th>FACULTY</th>
<th>DEPARTMENT</th>
<th>DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMANITIES</td>
<td>ENGLISH STUDIES</td>
<td>• English Literature and Comparative Cultural Studies***</td>
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<td>• Teaching English as a Foreign Language (TEFL)*</td>
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<td>• Theoretical and Applied Linguistics*</td>
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<td>• Linguistics**</td>
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<td>• Translation Studies**</td>
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<td></td>
<td>FRENCH STUDIES AND MODERN LANGUAGES</td>
<td>• French Studies***</td>
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<td>TURKISH AND MIDDLE EASTERN STUDIES</td>
<td>• Turkish Studies***</td>
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<td>PURE AND APPLIED SCIENCES</td>
<td>BIOLOGICAL SCIENCES</td>
<td>• Molecular Biology***</td>
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<td>• Experimental Molecular Biology*</td>
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<td>CHEMISTRY</td>
<td>• Chemistry***</td>
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<td>• Food Chemistry*</td>
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<td>COMPUTER SCIENCE</td>
<td>• Advanced Information Technologies*</td>
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<td>• Computer Science***</td>
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<td>• Internet Computing*</td>
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<td>• Intelligent Systems**</td>
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<td>MATHEMATICS AND STATISTICS</td>
<td>• Applied Statistics*</td>
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<td>• Applied Mathematics*</td>
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<td>• Physics***</td>
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<td>• Foundations of Physics*</td>
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<td>SOCIAL SCIENCES AND EDUCATION</td>
<td>EDUCATION</td>
<td>• Curriculum Development and Instruction***</td>
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<td>• Didactics and Methodology of Mathematics*</td>
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<td>• Educational Administration and Evaluation***</td>
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<td>• Inclusive Education*</td>
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<td>• Language Pedagogy*</td>
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<td>• Learning in Natural Sciences***</td>
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<td>• Mathematics Education***</td>
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<td>• Pedagogical Sciences*</td>
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<td>LAW</td>
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<td>• Private International and Comparative Private Law**</td>
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<td>(The postgraduate programmes are subject to approval by the relevant University bodies)</td>
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<td>PSYCHOLOGY</td>
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<td>• Applied Programme in School Psychology*</td>
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<td>• Cognitive and Educational Psychology*</td>
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<td>• Social and Developmental Psychology*</td>
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<td></td>
<td>SOCIAL AND POLITICAL SCIENCES</td>
<td>• Social and Political Theory*</td>
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<td>• Sociology**</td>
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<td>• Political Science**</td>
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<td>ECONOMICS AND MANAGEMENT</td>
<td>ECONOMICS</td>
<td>• Economic Analysis* (in greek and english)</td>
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<td></td>
<td>• Economics***</td>
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<td>• Monetary and Financial Economics*</td>
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<td>ECONOMICS</td>
<td>PUBLIC AND BUSINESS ADMINISTRATION</td>
<td>• Accounting**</td>
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<td>• Business Administration (MBA)* (in greek and english)</td>
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<td>• Management Science**</td>
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<td>• Financial Economics (in english)* (Interdepartmental programme of PBA-Eco)</td>
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<td>ARCHITECTURE</td>
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<td>CIVIL AND ENVIRONMENTAL ENGINEERING</td>
<td>• Civil Engineering***</td>
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<td>• Environmental Engineering***</td>
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<td>ELECTRICAL AND COMPUTER ENGINEERING</td>
<td>• Electrical Engineering***</td>
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<td>• Computer Engineering***</td>
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<td>MECHANICAL AND MANUFACTURING ENGINEERING</td>
<td>• Mechanical and Manufacturing Engineering***</td>
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<td>• Materials Science and Engineering***</td>
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<td>• Energy Technologies and Sustainable Design* (Interdepartmental programme of the Faculty of Engineering)</td>
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<tr>
<td>LETTERS</td>
<td>BYZANTINE AND MODERN GREEK STUDIES</td>
<td>• Modern Greek Philology***</td>
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<tr>
<td></td>
<td>CLASSICS AND PHILOSOPHY</td>
<td>• Classical Studies***</td>
</tr>
<tr>
<td></td>
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<td>• European Master in Classical Studies*</td>
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<td></td>
<td>HISTORY AND ARCHAEOLOGY</td>
<td>• Mediterranean Archaeology: from Prehistory to late Antiquity***</td>
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<td>• Modern and Contemporary History***</td>
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<td>• Traditional Culture (16th-20th century)**</td>
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<td>• Byzantine Studies***</td>
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Note: * Master / ** Ph.D. / *** Master and Ph.D.
**Faculty of Humanities**
Dean: Andreas Papapavlou
Deputy Dean: Thomas Sinclair

<table>
<thead>
<tr>
<th>Department</th>
<th>Chairperson</th>
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<tbody>
<tr>
<td>English Studies</td>
<td>Kleanthes K. Grohmann</td>
</tr>
<tr>
<td>French Studies and Modern Languages</td>
<td>Yiannis Ioannou</td>
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<tr>
<td>Turkish and Middle Eastern Studies</td>
<td>Martin Strohmeier</td>
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**Faculty of Letters**
Dean: Stelios N. Georgiou
Deputy Dean: Helen Phtliaka

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<td>Education</td>
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<td>Social and Political Sciences</td>
<td>Savvas Katsikides</td>
</tr>
<tr>
<td>Psychology</td>
<td>Fofi Constantinidou</td>
</tr>
<tr>
<td>Law</td>
<td>Athanasios Gagatas (temporary)</td>
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**Faculty of Economics and Management**
Dean: Louis Christofides
Deputy Dean: Andreas Charitou

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<tr>
<th>Department</th>
<th>Chairperson</th>
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<tbody>
<tr>
<td>Economics</td>
<td>Michael Michael</td>
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**Faculty of Engineering**
Dean: Panos Papanastasiou
Deputy Dean: Stavros Kassinos

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<td>Marios Phocas (temporary)</td>
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<td>Michalis Petrou</td>
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<td>Stavros Izekiel</td>
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<tr>
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**Faculty of Pure and Applied Sciences**
Dean: Constantinos Pattichis
Deputy Dean: Stavros Theodorakis

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<tr>
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<td>Andreas Constantinou</td>
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<td>Computer Science</td>
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**Faculty of Social Sciences and Education**
Dean: Michalis Pieris
Deputy Dean: George Georgis

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<tr>
<td>Byzantine and Modern Greek Studies</td>
<td>Marianna Katsoyianniou</td>
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<tr>
<td>Classics and Philosophy</td>
<td>Ioannis Taifazos</td>
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<tr>
<td>History and Archaeology</td>
<td>Chris Schabel</td>
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</tbody>
</table>
FACULTY OF HUMANITIES

- Department of English Studies 30
- Department of French Studies and Modern Languages 34
- Department of Turkish and Middle Eastern Studies 42
Research in the Department
The Department is involved in research into English and comparative literature, linguistics, translation and cultural studies. In particular, research activities of faculty members in the area of literature include theatre studies (especially comparative European theatre and melodrama), critical and cultural theory, postcolonial and postmodern literature, 18th and 19th century fiction, 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 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.

The Department is also involved in the following interdisciplinary research programmes:

a) The European Programme DIALANG, which aims at developing diagnostic tests for the languages of the European Union

b) The EU-funded European-wide project ACUME (Approaches to Cultural Memory), for the study of literary and cultural traditions on an international and comparative basis (the project is coordinated with the University of Bologna)

Postgraduate Studies
All postgraduate programmes are supervised by a four-member committee, which is appointed every two years. The Committee is chaired by a Postgraduate Coordinator.

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 (or equivalent) degree 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. In addition, candidates for the M.A. in Applied Linguistics will normally be expected to have two years’ work experience in education, teaching and/or administration.
(b) Postgraduate programmes at Ph.D. level: Generally, applicants for admission at Ph.D. level 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.

Although candidates need not have completed their degree at the time of application, they must have received it before they are allowed to commence the postgraduate programmes.

Application and Selection Procedures
For more information on application requirements and selection procedures, see Admission and Attendance Regulations – Application Procedures on page 16, or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61).

M.A. Degrees
The normal course of study for the M.A. is four semesters: three semesters of coursework, followed by one semester for writing the M.A. dissertation. Students are allowed up to eight semesters to complete the degree, if necessary.

M.A. IN ENGLISH LITERATURE AND COMPARATIVE CULTURAL STUDIES
The postgraduate programme in English Literature and Comparative Cultural Studies is designed for students who wish to undertake research in literature, with particular emphasis on cross-cultural, comparative and interdisciplinary perspectives. Students may explore cross-cultural dimensions within English Studies, or English Literature in relation to literatures in other languages offered by the Faculty. Intergeneric approaches to literature will also be encouraged. Courses examine recent developments in cultural analysis in relation to the literary text, drawing from disciplines such as psychology, anthropology, sociology, history and philosophy. The programme is aimed primarily at students who wish to undertake research in:

a) English and Comparative Literature
b) Cultural Studies
c) Literary Theory

Indicative list of courses

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ENG 700</td>
<td>Aesthetics and Literature: From Romanticism to Postmodernism</td>
</tr>
<tr>
<td>ENG 704</td>
<td>Historical and Ideological Transformations of the 19th Century</td>
</tr>
<tr>
<td>ENG 705</td>
<td>The Animal in Literature and Philosophy</td>
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<td>ENG 706</td>
<td>Topics in Literature and Revolution</td>
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<tr>
<td>ENG 707</td>
<td>The Problem of Subjectivity in Postmodern Theory and Literature</td>
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<tr>
<td>ENG 715</td>
<td>Seminar in Comparative Studies</td>
</tr>
<tr>
<td>ENG 736</td>
<td>Project Development (compulsory)</td>
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</tbody>
</table>

M.A. IN TEACHING ENGLISH AS A FOREIGN LANGUAGE (TEFL)
This M.A. programme will be postponed until 2012.

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 background 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, etc.)

• To engage students in research in the field, and consequently to 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

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ENG 704</td>
<td>Trends in Applied Linguistics</td>
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<tr>
<td>ENG 751</td>
<td>Language Teaching and Learning</td>
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<td>ENG 753</td>
<td>Language Testing and Evaluation</td>
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<td>ENG 754</td>
<td>Materials Developments and Course Design</td>
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<tr>
<td>ENG 755</td>
<td>Spoken Language Pedagogy</td>
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<tr>
<td>ENG 756</td>
<td>Technology-Assisted Language Learning</td>
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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:

Indicative list of courses

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<td>Materials Developments and Course Design</td>
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<td>Spoken Language Pedagogy</td>
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<tr>
<td>ENG 756</td>
<td>Technology-Assisted Language Learning</td>
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</tbody>
</table>
To offer students a solid background 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 engage students in research in the field, 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 701 Principles in Linguistic Analysis I
- ENG 703 First and Second Language Acquisition
- ENG 704 Trends in Applied Linguistics
- ENG 710 Topics in Linguistics
- ENG 748 Principles in Linguistic Analysis II

**Research Interests of the Academic Staff**

- **Stella Achilleos**  
  Lecturer
  Literature and cultural history of early modern England. In particular, the literature of the English revolution, English poetry of the sixteenth and seventeenth centuries (especially symposiastic poetry in relation to audiences and social practices), translation as cultural practice in the early modern period. Further, early colonial discourses and the construction of a national identity in the literature of sixteenth- and seventeenth-century England (with special interest in the treatment of colonial expansion in travel narratives and dramatic texts of the period).

- **Antonis Balasopoulos**  
  Assistant 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).

- **Photini Coutsougera**  
  Lecturer
  Theoretical phonology, L1 phonological acquisition, pronunciation teaching, and writing systems. More specifically, she is actively involved in the research of the phonology of Cypriot Greek, the written form of Cypriot Greek, the phonological acquisition of L1 Greek, and the teaching of the spelling acquisition of English to beginner learners.

- **Georgios Floros**  
  Assistant Professor
  His research interests focus on theoretical and methodological aspects of translation and interpreting, text linguistics and discourse analysis. In particular, his main research areas include culture and translation, translation process and methodology, translation didactics, interpreting methodology and didactic aspects of interpreting. As regards the 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**  
  Associate 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 (including 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 theory, contemporary English literature. In particular, she is interested in issues arising in the context of post-structuralist literary theory and post-war continental philosophy (with an emphasis on the work of Jacques Derrida, Emmanuel Levinas, Michel Foucault, Gilles Deleuze and Giorgio Agamben, among others). In the area of feminist studies, her interests focus on poststructuralist and psychoanalytic theories (with an emphasis on the work of Julia Kristeva, Luce Irigaray, Judith Butler, Helene Cixous) and contemporary women writers (such as Angela Carter and Jeanette Winterson, among others). Secondary interests in the following areas: modern and post-modern 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
  Assistant 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.

• Andreas N. Papapavlou
  Professor
  Speech perception, language acquisition, the acquisition of a dialect as a mother tongue, factors affecting second language acquisition, bilingualism in the Cyprus context, psycholinguistic dimensions of bilingualism, language attitudes toward the Cypriot dialect, languages in contact, sociolinguistic implications in lexical borrowing and language-in-education policy and planning.

• Stephanos Stephanides
  Professor
  His research interests relate to 20th-century comparative literature and focus on cross-culturality as a result of the colonial and post-colonial experience. In particular, he is interested in British, Indian, Caribbean and Latin American colonial and post-colonial literature, the relation of literature with cultural anthropology and literary translation as a cross-cultural practice.

• Dina Tsagari
  Lecturer
  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 (self-assessment, peer-assessment, portfolio assessment, etc); Teacher education; Adult and distance learning education in HE.

• Evy Varsamopoulou
  Assistant Professor
  English and European Romanticism, 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—particularly, ethics, phenomenology, existentialism, political philosophy, Kantian and post-Kantian aesthetics, psychoanalysis, time and narrative, subjectivity and gender (in literature and theory), community and identity.

Contact details
Department Secretary
Thekla Constantinou
Tel.: 22892102
Fax: 22750310
e-mail: thekla@ucy.ac.cy
http://www.ucy.ac.cy/eng-en
Le Département d’Études Françaises et de Langues Vivantes offre une formation sous-graduée sanctionnée par le Diplôme en Études françaises (niveau Master 1) et une formation post-graduée sanctionnée par le Master en Études françaises (niveau Master 2). Au niveau sous-gradué, les cours, d’une durée de quatre ans, permettent aux étudiants d’acquérir et de renforcer leurs connaissances dans les domaines de la culture, de la linguistique et de la littérature françaises et de commencer à se spécialiser dans l’une de ces branches. Au niveau Master, les cours visent l’approfondissement des connaissances dans des domaines choisis au sein de ces orientations et préparent à l’exécution d’un projet de recherche. La formation répond non seulement aux besoins du savoir universitaire mais aussi aux exigences des nouvelles réalités européennes.

Introduction
Le Master auquel conduisent ces études sanctionne une qualification scientifique de haut niveau, permet le passage d’un entraînement sous-gradué le plus souvent pluridisciplinaire à une formation post-graduée interdisciplinaire, et peut assurer:

- des débouchés professionnels dans divers domaines: enseignement public ou privé à Chypre et en Europe, fonction publique à Chypre ou dans d’autres pays européens, animation culturelle, médias, secteur tertiaire public ou privé, entreprises et organismes internationaux, etc.

- une formation de chercheur : le Master permettra aux étudiants de se préparer pour des études doctorales en acquérant les bases méthodologiques et l’expérience requise, mais aussi en travaillant sur un projet personnel qui pourra fournir la matière d’une thèse de Doctorat.

Le Programme s’adresse à tous les étudiants francophones:

- aux diplômés du Département d’Études françaises et de Langues vivantes qui veulent continuer à se spécialiser dans le domaine des Études françaises

- aux diplômés d’autres Départements de l’Université de Chypre qui désirent ajouter une dimension française et européenne à leur première spécialisation (sciences humaines et sociales, études administratives, langues et littératures, etc.)

- aux diplômés d’autres Universités voulant entreprendre une formation post-graduée à l’Université de Chypre

- aux diplômés voulant travailler sur tous les thèmes relevant du cursus, ainsi que sur des questions relatives à Chypre (par exemple, les mondes hellénophone et turcophone, la Méditerranée, le Moyen Orient, l’insularité, le colonialisme et le post-colonialisme, le bilinguisme et la diglossie, etc.)

- aux diplômés de la diaspora chypriote

- aux diplômés originaires des pays méditerranéens faisant partie de la Francophonie

Ainsi, le Master en Études françaises s’adresse à un très large public, national et international, autant par son cursus que par le fait que tous les cours se déroulent dans la langue internationale qu’est le français.
Admission dans le Programme du Master

Les candidats à l’admission au Programme du Master doivent détenir, à la date limite indiquée, un diplôme sous-gradué en études françaises ou en sciences humaines et sociales. Ils doivent normalement avoir obtenu à ce Diplôme une moyenne de 65/100 ou son équivalent et/ou avoir montré de solides aptitudes pour la recherche. Les candidats possédant un diplôme dans une discipline apparentée doivent parler et écrire couramment le français.

Le Département se réserve le droit de demander aux candidats admis de suivre, si nécessaire, des cours sous-gradués qui manqueraient à leur formation (cours de Méthodologie de la Recherche ou autres). Ces cours additionnels seront suivis de façon concomitante avec les cours de la première année du Programme de Master ; les notes obtenues (Réussite/Échec) n’affecteront pas le nombre total de crédits prévus dans le Programme de Master.

Le ou les thèmes généraux des cours et séminaires offerts dans le cadre du Master ainsi que le nombre de places disponibles chaque année seront annoncés au mois de mars et/ou au mois de septembre.

Procédure

Les candidats devront soumettre au professeur responsable du Programme du Master:

• une lettre de motivation en français (2-3 pages)
• un curriculum vitae en français
• une copie de leur diplôme sous-gradué accompagné du Supplément au Diplôme – SD ou du relevé détaillé de leurs notes
• un échantillon de travail : court article, extrait de mémoire, etc. (facultatif)
• deux lettres de recommandation qui devront être envoyées par les répondants directement au Département

Les dossiers de candidature seront examinés par la commission du Master du Département. Si cette commission le juge nécessaire, les candidats retenus seront convoqués pour un entretien ou une vidéoconférence. Une fois la recommandation faite, la sélection définitive des candidats sera prononcée par le Conseil du Département.

Durée du programme

Le programme s’étend sur trois semestres au cours desquels les étudiants sont tenus d’être présents à l’Université de Chypre. Cependant, ils peuvent séjourner dans une Institution étrangère pendant l’un de ces trois semestres (durée maximale autorisée par le règlement de l’Université de Chypre). Le Département doit informer les étudiants des possibilités qui leur sont offertes dans le cadre des échanges LLP/Erasmus. Dans le cadre des programmes d’échanges et de collaboration entre l’Université de Chypre et des Départements, Laboratoires ou Centres de Recherche à l’étranger, il est également envisagé d’organiser des directions conjointes des mémoires et de prévoir un séjour dans l’institution étrangère.

Crédits

Les étudiants du programme de Master doivent obtenir un total de 90 crédits (ECTS). Ceux-ci sont répartis de la façon suivante:

• Premier semestre: 3 cours de 10 ECTS chacun, soit 30 ECTS
• Deuxième semestre: 3 cours de 10 ECTS chacun, soit 30 ECTS
• Troisième semestre: Projet de recherche sous la direction d’un enseignant-chercheur du Département et rédaction du mémoire, soit 30 ECTS

Exceptionnellement et après autorisation du Comité du Programme de Master du Département, les étudiants pourront remplacer un cours au maximum de leur programme d’études par un cours d’un autre programme postgradué de l’Université de Chypre doté du même nombre de crédits, à condition que ce cours soit en rapport direct avec le sujet de leur mémoire.

Cours

Les cours ont la forme de cours magistraux ou de séminaires. Le contenu des cours dispensés pendant un même semestre ou une même année est, dans la mesure du possible, organisé autour d’une thématique centrale afin de garantir la cohérence des enseignements offerts, de permettre un approfondissement plus effectif des
connaissances et de promouvoir la participation active au débat scientifique. La présence aux colloques et conférences organisés par le Département fait partie intégrante du programme; le contenu de ces colloques et conférences peut faire l’objet de travaux écrits notés.

Les thématiques du programme sont énumérées ci-dessous et suivies d’une liste possible de cours, parmi lesquels le Département choisira ceux qui seront enseignés.

Des descriptifs préciseront l’orientation que le professeur responsable donnera à chaque cours.

### Thématique I: Des passés aux présents: langues, littératures, cultures

<table>
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<tr>
<th>Code</th>
<th>Cours</th>
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<tbody>
<tr>
<td>GAL 500</td>
<td>Philosophica: Philosophes grecs et lettres françaises</td>
</tr>
<tr>
<td>GAL 501</td>
<td>Fiction(s) et Histoire(s)</td>
</tr>
<tr>
<td>GAL 502</td>
<td>Créativité et création dans le mouvement surréaliste</td>
</tr>
<tr>
<td>GAL 503</td>
<td>Avant-gardes et théories du genre</td>
</tr>
<tr>
<td>GAL 504</td>
<td>Traitement du langage écrit</td>
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<tr>
<td>GAL 505</td>
<td>L’élaboration et le maintien du français standard</td>
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<tr>
<td>GAL 506</td>
<td>De la communication au cyberdiscours</td>
</tr>
<tr>
<td>GAL 507</td>
<td>Lectures du mythe des origines : littérature et arts</td>
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<tr>
<td>GAL 508</td>
<td>Le philosophe dans son jardin imparfait : Montaigne et la tradition philosophique antique</td>
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GAL 509-519 Thèmes spécifiques

### Thématique II: Histoire intellectuelle et Théorie contemporaine

<table>
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<tr>
<td>GAL 505</td>
<td>L’élaboration et le maintien du français standard</td>
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<tr>
<td>GAL 520</td>
<td>Les avant-gardes du XXe siècle</td>
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<td>GAL 521</td>
<td>La Théorie au pluriel: de la pensée 68 aux études culturelles</td>
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<tr>
<td>GAL 522</td>
<td>Réactions et réactionnaires: Luc Ferry, l’affaire Sokal, Daniel Lindenberg</td>
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<tr>
<td>GAL 523</td>
<td>Lettres françaises et droits de l’homme</td>
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<tr>
<td>GAL 524</td>
<td>L’Europe interculturelle: mosaïque de langues, carrefour de discours</td>
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<tr>
<td>GAL 525</td>
<td>Le sens en contexte</td>
</tr>
<tr>
<td>GAL 526</td>
<td>Les théories de l’apprentissage des langues et leur réalisation en didacticiels</td>
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<tr>
<td>GAL 527</td>
<td>Histoires de la Révolution française : le point de vue des contre-révolutionnaires</td>
</tr>
<tr>
<td>GAL 528</td>
<td>Le Genre: une catégorie valable?</td>
</tr>
<tr>
<td>GAL 581</td>
<td>Les corps du texte</td>
</tr>
<tr>
<td>GAL 582</td>
<td>Langue et politique</td>
</tr>
<tr>
<td>GAL 583</td>
<td>Littérature et politique</td>
</tr>
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<td>GAL 584</td>
<td>Sujet, écriture et création</td>
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<tr>
<td>GAL 598</td>
<td>Sujet, écriture et création</td>
</tr>
<tr>
<td>GAL 586-598</td>
<td>Thèmes spécifiques</td>
</tr>
<tr>
<td>GAL 599</td>
<td>Mémoire de Master</td>
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<td>GAL 600</td>
<td>Prolongation du Mémoire de Master</td>
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### Mémoire de Master

Le mémoire devra être une œuvre originale, d’une longueur de 10000 mots environ. Le sujet du mémoire et le directeur de recherche devront être choisis par les étudiants au cours du second semestre de leurs études. Pour sa présentation, il faudra suivre les directives et recommandations du Département.
Depuis déjà quelques siècles, l'historiographie occidentale est le présent. Les objectifs du cours sont de former les étudiants à sacralisations, transmissions et réappropriations des passés par réciproquement ; à la réflexion sur la proximité et la différence l'analyse des aspects philosophiques des œuvres littéraires, et questionnements philosophiques majeurs à partir d'œuvres que faire de l'histoire, c'est marquer un certain rapport au temps. permettant la mise en place du 'produit historique' - qui quelques-uns, ou encore de leur prêter un sens contemporain existant entre philosophie et littérature ; à l'étude de

Dans ce sens, l'écriture de l'histoire nous permet de gérer un problème général de la réception antique : ses limites, intersections et déplacements ; les transformations des contenus ainsi que les processus et stratégies des médiations, sacralisations, transmissions et réappropriations des passés par le présent. Les objectifs du cours sont de former les étudiants à l'analyse des aspects philosophiques des œuvres littéraires, et réciproquement ; à la réflexion sur la proximité et la différence existant entre philosophie et littérature ; à l'étude de questionnements philosophiques majeurs à partir d'œuvres littéraires capitales de forme essayiste, romanesque ou poétique.

Descriptifs des Cours
Tous les cours sont crédités de 10 ECTS.

**GAL 500 Philosofica: Philosophes grecs et lettres françaises**
Le champ d'études des rapports entretenus entre la littérature et la philosophie (et vice versa) est très vaste. Ces disciplines, qui n'ont pas toujours été séparées comme elles le sont aujourd'hui (en catégories universitaires par exemple), se sont souvent trouvées confondues: ainsi, le discours global des philosophes de l'Antiquité grecque ou des Lumières françaises était aussi littéraire que spéculatif ou critique. Aujourd'hui, l'intérêt renouvelé que chacune des deux disciplines porte à l'autre remet le thème des relations entre la littérature et la philosophie à l'ordre du jour. Le séminaire " Philosofica : Philosophes grecs et Lettres françaises " se donne pour objectif d'envisager le problème général de la réception antique : ses limites, intersections et déplacements ; les transformations des contenus ainsi que les processus et stratégies des médiation, sacralisations, transmissions et réappropriations des passés par le présent. Les objectifs du cours sont de former les étudiants à l'analyse des aspects philosophiques des œuvres littéraires, et réciproquement ; à la réflexion sur la proximité et la différence existant entre philosophie et littérature ; à l'étude de questionnements philosophiques majeurs à partir d'œuvres littéraires capitales de forme essayiste, romanesque ou poétique.

**GAL 501 Fiction(s) et Histoire(s)**
Ce séminaire s'appuie sur l'idée proposée par Michel de Certeau que faire de l'histoire, c'est marquer un certain rapport au temps. Depuis déjà quelques siècles, l'historiographie occidentale est étroitement liée par son nom comme par sa pratique à l'acte d'écrire ; plus précisément, c'est l'écriture - en tant que moyen permettant la mise en place du 'produit historique' - qui constitue la coupure qui du présent sépare un certain passé. Autrement dit, c'est en essayant de mettre en texte une partie du continuum temporel que celle-ci est aussi mise à distance, devenant ainsi à la fois tradition, res gesta et objet de savoir. Dans ce sens, l'écriture de l'historie nous permet de gérer un passé, de le définir et de le circumscrire, de mettre en ordre la matière prima des faits hétérogènes ou même d'en 'fabriquer' quelques-uns, ou encore de leur prêter un sens contemporain au lieu d'y 'découvrir' un sens passé. Même si de cette façon on tend à exerciser aussi bien la prétendue souplesse de l'oralité que l'aspect imaginaire du passé, l'écriture de l'histoire semble particulièrement plus proche d'une production de fiction. Tout en évitant l'opacité d’un passé non dit comme de son allure mythique, l'écriture de l'histoire est indissociablement liée au hic et nunc du sujet qui la produit et, par là, à un vouloir-faire, à un désir de contrôle et à un pouvoir politique. De sorte que, dans ce séminaire, l'accent sera mis autant sur le côté fictif ou ‘fictionnalisant’ de l’entreprise historiographique que sur les manipulations conceptuelles et idéologiques que celle-ci permet.

**GAL 502 Créativité et création dans le mouvement surréaliste**
Les thèmes de la créativité et de la création ont été à l’épicentre de la réflexion surréaliste qui se donnait pour objectif de libérer toutes les forces créatives de l’homme afin de lui permettre de retrouver sa nature de poète (μοιρατικ-créateur). Les méthodes employées par les surréalistes ainsi que leur justification théorique avaient pour objectif, entre autres, de transformer le regard de l’homme sur sa propre existence, devenu trop rationaliste, en un regard magique. Ce qui se résumerait en une approche cherchant à mettre en évidence l’aspect vierge et innocent du monde, de manière à permettre à la générosité et au désintéressement de prendre le devant sur la vie.

L'invention, la provocation ou la mise en scène de situations aptes à promouvoir la créativité, puis la création artistique, ont permis à ce mouvement d’ajouter une dimension importante à la réflexion autour de la notion de la créativité et de la création littéraire et plus généralement artistique. Les objectifs du cours sont de comprendre les multiples aspects de la réflexion autour du thème de la création et de la créativité artistiques, ainsi que les liens inséparables entre la vie et l’art.

**GAL 503 Avant-gardes et théories du genre**
La nature de la relation entre langue et le monde extralinguistique en général, ou entre langue et société, est sujet qui porte à controverse. Pour certains, la langue reflète la société et les productions de la langue (la langue n'est donc que la conséquence de la culture). D'autres pensent la relation inverse: la langue déterminerait ou au moins influencerait la société et notre perception du monde extralinguistique. Dans le premier cas, les divisions du genre en grammaire ne seront que le reflet de celles trouvées dans la société en question. Dans le second cas, la langue créerait en partie ces mêmes divisions. Ce cours explore ces deux positions théoriques. Il vise ainsi à l'acquisition d'une connaissance approfondie des principaux courants de pensée qui ont traversé le champ des études féministes à l'origine des études sur la langue et le genre (Lakoff), en particulier ceux appliqués à la langue française (Yaguello, Michard, Khaznadar). A ces travaux s'ajoutent des textes soit philosophiques (Bourdieu, Iriigaray, Le Doeuff), soit littéraires (Beauvoir, Wittig), textes à la fois application et réflexion de ces mêmes principes, parfois même avant la lettre (Pizan, Marguerite de Navarre).
GAL 504 Traitement du langage écrit

L'importance croissante de la demande en Ingénierie Documentaire explique sa récente évolution technologique: élaborer des procédures informatisées fondées sur des outils à base linguistique pour traiter efficacement l'information numérisée. Les informaticiens du secteur d'activité mentionné travailleront donc de plus en plus avec des linguistes qui ont des compétences en informatique. Dans ce séminaire, l'accent sera mis sur des éléments de linguistique utilisés pour le développement d'outils en linguistique informatique.

L'objectif principal est de présenter les principales approches linguistiques qui tiennent compte du figement et de la polysémie. Leur importance étant très souvent sous-estimée, ces phénomènes constituent les principales difficultés en Traitement Automatique du Langage. Il est question également des applications qui découlent de ces théories, notamment en termes de dictionnaire électronique, tant du point de vue de la langue générale que des langues spécialisées. Ce cours mettra en évidence d'éventuelles applications du traitement automatique en traduction et en didactique.

GAL 505 L'élaboration et le maintien du français standard

Idéologies et politiques linguistiques d'hier et d'aujourd'hui

Ce cours de linguistique diachronique a pour objet, non pas les changements internes qui ont affecté la langue française, mais le développement du français normé en relation avec ses locuteurs et son usage. L'approche sera celle de la linguistique socio-historique. On y examinera l'histoire externe du français en se centrant sur le phénomène de la standardisation. Les principaux processus sociaux de la standardisation seront considérés: sélection d'une norme, puis diffusion, acceptation et maintien de celle-ci. Les processus linguistiques à l'œuvre dans la standardisation, élaboration des fonctions et codification, seront aussi discutés.

A chaque étape, la standardisation sera mise en rapport avec les événements historico-politiques qui l'ont influencée ainsi qu'avec les idéologies qui ont modelé la politique linguistique en France. On verra enfin que ces trente dernières années, sous la pression de changements sociaux ou politiques, mais toujours dans la tradition de l'interventionnisme, l'Etat français a fait preuve d'une grande activité dans le domaine linguistique. Celle-ci a eu pour but d'une part de continuer à façonner le français, mais d'autre part de commencer à faire reconnaître le patrimoine linguistique de la France, représenté par l'ensemble des langues parlées sur le territoire.

A la fin du cours les étudiants auront acquis une connaissance approfondie de l'histoire externe du français, auront réfléchi sur le phénomène de la standardisation linguistique et sur les relations entre politique et linguistique et auront été formés à analyser des textes officiels sur la langue et des études critiques sur les thèmes abordés.

GAL 507 Lectures du mythe des origines: littérature et arts

Le séminaire Lectures du mythe des origines : littérature et arts a pour objectif d'étudier les interférences littéraires, artistiques et culturelles du XIIe au XVIIe siècle dans la mythologie des "origines" : origine du monde, origine de l'homme, origine de l'image, origine de l'identité. Pour les mythes des origines, artistes et écrivains chrétiens puisent chez les auteurs anciens, ainsi que dans la tradition biblique et patristique. Ils copient ou réinventent les formes, les expressions et, à des moments décisifs, varient sur les concepts, liés aux contextes économique, politique et social. Nous prenons comme point de départ la notion (chrétienne) de l'origine de l'homme comme un être dualiste – corps et âme – telle qu'elle est transposée dans l'Ecclesia, la société et l'univers même. Dans l'art, la littérature ou les formes d'expression mixte (emblèmes, devises), les interférences jouent sur les plans théologique, philosophique et esthétique. Se posent ainsi les questions suivantes : 'comment lire l'image ?', 'comment interpréter le signe ?' et 'quel statut obtiennent respectivement l'image et le texte ?' Ce sont des questions méthodologiques dont traitent l'iconologie et les théories du signe (sémiotique), encore débattues tout récemment, mais déjà au cœur des discussions menées par les poètes et les savants de la période étudiée, dans laquelle les théoriciens commencent déjà à introduire concepts et approches anthropologiques et sociologiques. Seront ainsi abordées les questions de continuité versus rupture, de paradigmes historiques du savoir, de transformations et déplacements versus continuités du mythe des origines selon le contexte. L'étude du domaine français, dans la mesure où les sources françaises y font elles-mêmes référence, sera également orientée vers le domaine italien. Enfin est introduite une composante comparative, celle de l'espace chypriote, avec le contexte. L'étude du domaine français, dans la mesure où les sources françaises y font elles-mêmes référence, sera également orientée vers le domaine italien. Enfin est introduite une composante comparative, celle de l'espace chypriote, avec le contexte. L'étude du domaine français, dans la mesure où les sources françaises y font elles-mêmes référence, sera également orientée vers le domaine italien. Enfin est introduite une composante comparative, celle de l'espace chypriote, avec le contexte.
l’ascension de l’âme qui sont l’essence du travail de philosophe, mais la redescente sur terre, au sein du “jardin imparfait”. Toutefois, un autre aspect de la tradition antique résonne encore dans les écrits de Montaigne : la philosophie non pas comme théoria mais comme exercice spirituel.

GAL 527 Histoires de la Révolution française : le point de vue des contre-révolutionnaires

La Modernité européenne a retenu un aspect “philosophique” de la Révolution française. L’historiographie officielle parle d’émancipation de l’humanité, des Droits humains, de République et d’autonomie. On célèbre l’exploit du Peuple, l’esprit révolutionnaire rejoint le mythe de Prométhée, comme si le feu, que ce dernier avait à son service, faisait aussi office d’instrument de purgation contre le passé tyrannique. Encore aujourd’hui, les noms des “affreux contre-révolutionnaires”, ceux de Joseph de Maistre et de Louis de Bonald, suscitent peur et méfiance. Mais l’histoire de la Résolution a aussi ses aspects sombres : Chateaubriand et Tocqueville, aussi bien que des philosophes et des historiens outre-manche comme Edmund Burke, Thomas Carlyle ou Lord Acton insistent bien sur ces aspects sombres de la Terreur et de l’égalitarisme à la Procruste comme essence de la Révolution. Notre but est de donner la parole à ces penseurs, les écouter d’une oreille tranquille du sein de notre démocratie tranquille. Dans ce cours, nous serons particulièrement sensibles à la parole des femmes, aux crimes de genre (gender crime) dénoncés dans les récits personnels des femmes sous la Terreur. Il se peut que ces crimes annonçaient déjà l’horreur inouïe des armées de la Révolution et, plus tard, celle des deux guerres mondiales.

Programme doctoral en Études françaises

Conditions d’admission au Programme doctoral

Les candidats au Programme doctoral doivent, à la date de la publication des places disponibles par le Département, être titulaires d’un Master en Études françaises ou en Sciences humaines ou sociales (niveau doctoral en accord avec le cadre européen 3-5-8 ou français LMD). Les candidats n’ayant pas encore obtenu leur titre mais étant dûment inscrits à un programme aboutissant au Master sont autorisés à déposer une demande d’admission à condition qu’ils aient complété leurs études au 31 juillet de l’année au cours de laquelle ils souhaitent effectuer leur inscription au Programme doctoral.

Les candidats détenteurs d’un diplôme dans une discipline connexe doivent parfaitement maîtriser la langue française à l’écrit et à l’oral; la connaissance d’autres langues est considérée comme un atout supplémentaire.

Organisation du Programme doctoral

Directeur de Recherche

L’élaboration d’une thèse de doctorat est placée sous la tutelle d’un Directeur de Recherche désigné par le Conseil de Département. Le Directeur de Recherche suit les travaux de recherche de l’étudiant et lui offre soutien et conseils appropriés.

Cours supplémentaires

Si le Directeur de Recherche juge que cela est utile ou indispensable à la recherche en cours, il peut demander au doctorant de suivre des cours de Master offerts par l’Université de Chypre.

Approbation du projet de recherche doctoral

Au cours du premier semestre d’études doctorales, le candidat est en principe tenu d’effectuer la recherche préliminaire nécessaire aboutissant à l’élaboration d’un projet détaillé de thèse de doctorat. À la fin du semestre, le candidat soumet son projet à un comité tripartite.

Examen de synthèse

Le candidat est tenu de passer avec succès un examen de synthèse, dont la passation doit se faire au plus tard au cinquième semestre de ses études doctorales.

Thèse de Doctorat

L’élaboration d’une thèse originale de doctorat, laquelle doit apporter une contribution importante au domaine de recherche concerné, constitue un élément obligatoire du programme. La thèse de doctorat doit être rédigée en français.

Soutenance de la Thèse

La thèse est publiquement soutenue devant un jury de cinq membres choisi par le Conseil du Département.

Pour plus de renseignements concernant ce qui précède, voyez Règlements / Conditions d’admission aux Études postgraduées et Dépôt des demandes, page 16 en anglais, ou adressez-vous au Bureau des Études postgraduées, Service Étudiants (tél. 22894021/61), ou au Secrétariat du Département (tél. 22894370).

Durée du programme

La durée totale des études pour l’obtention du diplôme doctoral ne peut pas dépasser huit (8) ans à partir de l’inscription au programme. Les candidats peuvent
effectuer jusqu’à une année civile d’études dans des universités étrangères, dans le cadre de programmes d’échanges universitaires.

**Dépôt des demandes et places disponibles**
La demande est déposée par l’intéressé auprès du Coordinateur des programmes postgradués dans les délais posés par l’Université. Le contingent de places disponibles chaque année est de cinq (5) doctorants. Le dossier de demande doit inclure les documents mentionnés dans le paragraphe “Dépôt des demandes” des programmes postgradués (Règlements / Conditions d’admission aux Études postgraduées et Dépôt des demandes, page 14). De surcroît, la demande doit inclure a) un échantillon de travail (article, chapitre de mémoire, etc.) et b) une documentation prouvant la parfaite connaissance de la langue française et éventuellement d’autres langues.

Les candidatures seront examinées par le Comité du Programme doctoral du Département qui peut, s’il le juge nécessaire, convoquer les candidats sélectionnés à un entretien, une téléconférence et/ou un examen écrit. La proposition finale du Comité est soumise à l’approbation du Conseil de Département.

**Domaines de recherche des enseignants-chercheurs du Département**

- **Fabienne Baider**
  Professeur Associé
  Linguistique française: a) sémantique du syntagme nominal (en particulier résolution du sens contextuel); b) pragmatique: discours (publicitaire, touristique) et performativité. Dictionnairique: a) idéologie et discours lexicographique; b) marque étymologique et emprunt lexical (notamment dans son rapport langue “ majeure ”, langue “ mineure ”); c) approche diachronique (pratiques discursives historiques). Théories féministes: a) catégorie genre comme catégorie d’analyse linguistique (analyse discursive, interactionnelle et textuelle); b) féminisation vs généricité.

- **Evelien Chayes**
  Lectrice
  Littérature comparée et histoire des idées. Moyen âge – Renaissance – XVIIe siècle. France – Italie – Pays-Bas. Poésie et sciences naturelles ; rapports entre théologie, philosophie et littérature ; rhétoriques et poétiques ; théories et pratiques de (r)éinvention des genres littéraires ; académies françaises et italiennes ; appropriation et fonction de la philosophie de Marsile Ficin et des Néoplatoniciens plus anciens dans les créations littéraires ; hétérodoxie.

- **May Chehab**
  Professeur Associé
  Littérature comparée et étude des échanges de la littérature avec les autres formes de discours d’une société: a) réceptions et intertextualités de la littérature et de la philosophie de la Grèce antique dans les lettres et la pensée françaises (XVIIe, XIXe, XXe et XXIe siècles); b) réceptions et intertextualités des lettres anglaises et américaines dans les lettres françaises aux XVIIe, XIXe et XXe siècles; c) lettres françaises et droits de l’homme ; d) le discours scientifique dans le discours littéraire. Littératures contemporaines: a) poésie et théâtre aux XXe et XXIe siècles; b) la nouvelle autobiographie. Histoire de la civilisation européenne: a) histoire des sciences, des découvertes et de l’art en Europe; b) la construction de l’identité européenne; la République des Lettres en Europe.

- **Panagiotis Christias**
  Professeur Assistant

- **Yiannis E. Ioannou**
  Professeur

- **Fryni Kakoyianni-Doa**
  Lectrice
  Linguistique française et contrastive: a) Morphologie flexionnelle et dérivationnelle ; b) Syntaxe (parties du discours et classes de mots, adverbes, énoncé, énonciation, syntaxes, grammaire sytagmatique, phrase et approche transformationnelle) ; c) Lexicologie (sémantique lexicale, fonctionnement de la polysémie, classes lexicales, classement et regroupement du lexique) ; d) Phonétique et phonologie (code phonographique et orthographie) ; e) Sociolinguistique et dialectologie (langues minoritaires). Linguistique appliquée: didactique du FLE
(sémiotique de l’image, son et l’image, neurolinguistique, nouvelles technologies.

**Apostolos Lampropoulos**

*Professeur Assistant*


**Efi Lamprou**

*Professeur Assistant*

Linguistique et traduction automatique: a) description linguistique destinée à la traduction et au traitement automatique de la langue (reconnaissance et génération des structures textuelles), b) description des propriétés et particularités syntaxiques et sémantiques de la langue naturelle, c) classes d’objets et classes sémantiques, d) actualisation des prédicats nominaux, e) constructions à verbe support et figement, f) dictionnaires électroniques, g) polysémie, h) applications du modèle des classes d’objets dans l’acquisition du vocabulaire en grec et/ou en français langues étrangères. Approche linguistique de la traduction: problèmes linguistiques et pratiques de la traduction (correspondances-équivalences, absence de déverbalisation, règles de transformation, contexte et bagage cognitif).

**Contact**

*Secrétariat du Département*

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e-mail: koufalidou.androulla@ucy.ac.cy
http://www.ucy.ac.cy/frml-fr
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. The programme provides for a choice of basic directions. The choice of direction is made in combination with a choice of field within the direction. At present, two directions are offered:

- History and Politics
- Linguistics and Literature

Introduction
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. The programme is published in the Department’s prospectus and is governed by the general Regulations for Postgraduate Study which were approved by the Senate on 26th February 1998.

Directions
The programme provides for a choice of basic directions. The choice of direction is made in combination with a choice of field within the direction. At present, two directions are offered:

(a) History and Politics
(b) Linguistics and Literature.

Structure of the Master Programme
At Master level the Programme requires the completion of 90 ECTS, which are chosen from the basic fields and from individual courses, as follows:

<table>
<thead>
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<th>Core courses</th>
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<tr>
<td>TUR 601 Problems of Research and Methodology in Turcology</td>
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<td>TUR 620 Specialized Academic Texts</td>
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<td>TUR 640 Archival Texts Seminar</td>
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<th>Directions</th>
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<td>(a) History and Politics</td>
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<tr>
<td>Fields</td>
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<tr>
<td>TUR 700-719 Pre-Ottoman and Ottoman History</td>
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<tr>
<td>TUR 720-739 Modern Turkish History</td>
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<td>TUR 740-759 History of the Balkans</td>
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<tr>
<td>TUR 760-779 History of the Middle East</td>
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<tr>
<td>TUR 780-799 Islam: Religion, Culture</td>
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| (b) Linguistics and Literature |
| Fields |
| TUR 800-819 Ottoman Literature |
| TUR 820-839 Turkish Philology |
| TUR 840-859 Turkish Literature |
| TUR 860-879 Turkish Linguistics |

Note: Each course carries 7 ECTS.
The courses are divided as follows:
– Core courses 21 ECTS
– Directions 35 ECTS
– Postgraduate Dissertation 34 ECTS

The core courses are compulsory for students taking either direction. The 35 ECTS taken under the respective directions are composed as follows:
– Twenty-one (21) ECTS within the student’s chosen Field
– Fourteen (14) ECTS for other basic fields, within or outside the student’s Field

Upon approval of the Postgraduate Studies Committee it is possible to take a certain number of credits from postgraduate courses in other departments, which may be in any Faculty.

Postgraduate Dissertation
Students taking either direction are required to write a Postgraduate Dissertation, which must be original (34 ECTS).

Acceptance in the M.A. Programme
Students are accepted in the programme on the basis of the criteria specified in the Admissions and Attendance Regulations – Application Requirements on page 16.

In addition, to be accepted in the Master Programme of the Department, students must possess a degree in Turkish Studies, a degree from the Faculty of Letters or a degree in Humanities and Social Sciences. Candidates are required to know the Turkish language. As and when the Department judges it necessary, provision will be made for a special examination to test the adequacy of applicants’ knowledge. Knowledge of at least one foreign language (normally English) is essential. Candidates must also prove themselves in an interview or other test which the Department may consider suitable.

Duration
Students must complete three semesters of full-time attendance. The period may be extended, as provided for in the Admissions and Attendance Regulations – Application Requirements on page 16.

Analytical Programme
When the availability of positions in the programme is announced, the Analytical Programme and the courses to be taught will be finalised. Below only the general form of the Analytical Programme is presented, without being specific as to Direction or Field.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Details</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>First semester</td>
<td>TUR 601 (CC) 7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>TUR 620 (CC) 7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>TUR 640 (CC) 7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Orientation and Research for Postgraduate Dissertation</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Total:</td>
<td>30</td>
</tr>
<tr>
<td>Second semester</td>
<td>From Student’s Field (SF) 7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>From Student’s Field (SF) 7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>From Student’s Field (SF) 7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Research for Postgraduate Dissertation</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Total:</td>
<td>30</td>
</tr>
<tr>
<td>Third semester</td>
<td>From another Field (RE) 7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>From another Field (RE) 7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Postgraduate Dissertation 16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total:</td>
<td>30</td>
</tr>
</tbody>
</table>

Note:
CC = Core Course (i.e., course which is compulsory for both directions).
SF = Student’s Field (i.e., course within the student’s Direction and chosen field). These courses account for 21 ECTS.
RE = Restricted Elective (i.e., course from another Field, in either direction). These courses account for 9 ECTS.

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. However, 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 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:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Stage (research, etc.)</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Taught classes</td>
<td>30</td>
</tr>
<tr>
<td>2nd</td>
<td>Taught classes</td>
<td>30</td>
</tr>
<tr>
<td>3rd</td>
<td>Research stage</td>
<td>30</td>
</tr>
<tr>
<td>4th</td>
<td>Research stage</td>
<td>30</td>
</tr>
<tr>
<td>5th</td>
<td>Research stage</td>
<td>30</td>
</tr>
<tr>
<td>6th</td>
<td>Research stage</td>
<td>30</td>
</tr>
<tr>
<td>7th</td>
<td>Writing stage</td>
<td>30</td>
</tr>
<tr>
<td>8th</td>
<td>Writing stage</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>240</strong></td>
</tr>
</tbody>
</table>

An assessment (comprehensive examination) of the student’s progress must take place by the end of the fifth semester.

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. Success in the comprehensive examination carries 60 ECTS

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 on page 16.

For more information, see the Attendance Regulations of Postgraduate Studies on page 16 or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61). In addition, the full text of the doctoral programme regulations is available from the Department’s secretariat.

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 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 programme. Candidates must in any case be competent in Turkish. They are not obliged to submit a dissertation proposal at this stage, but a dissertation proposal may help them in their application. If the proposal is not included in the student’s application for the Master it must be submitted towards the end of his taught classes in the Master programme.

The full text of the doctoral programme regulations is available from the Department’s office.

Research Interests of the Academic Staff

- **Christiane Bulut**  
  Associate Professor  
  Turkic varieties of southeast Anatolia, Iraq, west Iran and Azerbaijan; Old Anatolian and Ottoman Turkish; Kurdish; Turkic-Iranian linguistic and cultural contacts; Ottoman and Safavid relations; history / history of settlement under the Eastern Caliphate.

- **Matthias Kappler**  
  Associate Professor  
  The language of “Karamanlı” Literature; Balkan Turkology-Dialects; Greek-Turkish Language Contacts; Late Ottoman Literature.

- **Niyazi Mustafa Kızılyürek**  
  Professor  
  Political History of Cyprus, Political History of Modern Turkey, Nationalism.
• Michalis Michael
Lecturer
Research interests focused on: a) history of the institutions of the Ottoman Empire and the changes after the end of the 16th century, b) history of Cyprus during the Ottoman period with emphasis on the status of the Orthodox Church, c) the transition from the Ottomans to the British Administration. The changes related to the status of the Orthodox Church of Cyprus, d) study of archival material such as documents and codex material of the Ottoman period of the history of Cyprus, e) study of the post-Ottoman Cypriot historiography concerning the Ottoman period of the island.

• Börte Sagaster
Assistant Professor
The transition from late Ottoman to Modern Literature, Contemporary Turkish Literature, Identity and Society in Turkish Literature, Autobiographies in Turkish Literature.

• Thomas A. Sinclair
Associate Professor
Late medieval Turkish history in Asia Minor, early Ottoman history in Asia Minor and the Balkans; Armenia in the Il-Khanid, Turcoman and early Ottoman periods, with special reference to commerce and administration; medieval Turkish and Ottoman architecture.

• Theocharis Stavrides
Assistant Professor
His research interests focus mainly on the study of a) the history of the early Ottoman Empire (1300-1512), b) Ottoman civilization and culture, and c) the history of Cyprus during the Ottoman period, with special emphasis on society and culture.

• Martin Strohmeier
Professor
Social and cultural history of the Ottoman Empire and Modern Turkey, Development of education, and History of the press in the Middle East.

• Ioannis Theocharides
Professor
The History and the Sources on the institutions of Greek lands during the Ottoman domination, with emphasis on Cypriot History, Ottoman Palaeography and Diplomatics and, in part, Balkan History.
<table>
<thead>
<tr>
<th>Department</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Biological Sciences</td>
<td>48</td>
</tr>
<tr>
<td>Department of Chemistry</td>
<td>62</td>
</tr>
<tr>
<td>Department of Computer Science</td>
<td>74</td>
</tr>
<tr>
<td>Department of Mathematics and Statistics</td>
<td>82</td>
</tr>
<tr>
<td>Department of Physics</td>
<td>94</td>
</tr>
</tbody>
</table>
Introduction

At the start of the new millennium, Biology is at the forefront of scientific discovery and public attention. The recent delineation of the complete genomic information of humans and several other organisms has provided the foundation for unprecedented advances in understanding life at the molecular level. It has also provided new tools and approaches to medicine, agriculture, biotechnology, and other disciplines. The way Biology is taught, practiced, and understood has been revolutionised through advances in biochemistry, cell and developmental biology, structural biology and genetic manipulations based on molecular biology. Biology has expanded to create novel fields, beyond its traditional scope, via synergies and interactions with information science, chemistry, physics and engineering. In this framework, Biology has become a driving force of discovery and application in the modern economy and industry (biotechnology, agriculture, medicine, pharmaceuticals, to name a few), and a source of improvements in health and quality of life.

Objectives

The Department accepted its first postgraduate students in September 2003 and offers postgraduate programmes leading to the titles of Master of Science and Doctor of Philosophy in Molecular Biology.

The main goals of the Department of Biological Sciences are:

• To develop competitive research programs in the fields of immunology, cell biology, embryology, bioinformatics, genetics, virology, neurobiology, and cancer treatment and prevention

• To offer high quality education and training at the undergraduate and postgraduate level

• To contribute to upgrading of services provided by the public and private sectors in Cyprus, especially those concerning public health, the environment, and medicine

Postgraduate Programmes in Molecular Biology

• Master in Molecular Biology
• Master in Experimental Molecular Biology
• Ph.D. in Molecular Biology
Admission to the Postgraduate Programmes

The Department announces positions for each of the above postgraduate programmes separately, after approval from the relevant authorities of the University. The decision on the number of the announced positions is based on the specific needs and capacities of the Department and of each of its faculty members. Consequently, all new students will have prior knowledge regarding the research lab in which they will carry out their research part of the programme (applies to either ‘Master in Experimental Molecular Biology’ or to ‘Ph.D. in Molecular Biology’). Each postgraduate student is encouraged to contact all Departmental Faculty Members (DFM) with the aim of choosing the research lab for carrying out the research part of his/her studies. Upon entry to the programme, every student must have identified a DFM who is prepared to host him/her for developing the laboratory part of the research work.

For information on the application procedures, see the Admission and Attendance Regulations – Application Requirements on page 16 or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat (tel. 22892880/22892894).

In addition to the general requirements, candidates are encouraged to start the admission procedure to the postgraduate programme before the completion of their undergraduate study. However, they must hold an undergraduate degree by the start of the postgraduate programme.

Content of the Postgraduate Programmes / General Requirements

The postgraduate programmes of the Department of Biological Sciences include theoretical and research courses at both the Master and Ph.D. levels. For students who enter the Ph.D. programme and have already obtained a Master degree from the University of Cyprus or any other recognized university, it is possible to be exempted from some or all of the required ECTS on a case by case determination.

MASTER DEGREE IN MOLECULAR BIOLOGY OR EXPERIMENTAL MOLECULAR BIOLOGY

The Master degree in ‘Molecular Biology’ does not involve a lab-based research dissertation and it is designed for those students who do not wish to work in a research lab during their studies. To obtain this Master degree, candidates must successfully complete 90 ECTS as follows:

- The course BIO 680 carries 20 ECTS and is compulsory. Seminar attendance (BIO 800 and BIO 801) is also compulsory (Table A). The remaining 70 ECTS are obtained by attending classes from a list of restricted elective courses (Table B). For the completion of the Master Degree in ‘Experimental Molecular Biology,’ 90 ECTS are required, 60 of which are obtained by attending classes from restricted elective courses (Table C), as well as by attending the seminar classes (BIO 800 and BIO 801) which are also compulsory. Another requirement is to carry out a compulsory lab-based research dissertation whose duration is at least one semester and which carries 30 ECTS (Table D). After its completion, this dissertation will be 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 their postgraduate programme.

For more information on the composition of the Special Examinations Committee, see the Admission and Attendance Regulations – Application Requirements on page 16 or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

The duration of study is at least three semesters with a maximum of eight semesters. Students enrolled in either of the two Master programmes will be allowed to apply for a change of Master programme by the second semester of their studies, which will be subject to approval by the CPS and the Departmental Council.

| ECTS | TABLE A |
| Compulsory courses (Master in Molecular Biology) |
| BIO 680 Scientific Methodology in Molecular Biology | 20 |
| BIO 800 Postgraduate Seminar series | 0 |
| BIO 801 Postgraduate Seminar series | 0 |

| TABLE B |
| Restricted elective courses (Master in Molecular Biology) |
| BIO 610 Molecular Genetics I | 10 |
| BIO 620 Special Topics in Cellular 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 |
Those enrolled in the Ph.D. Programme must complete 80 ECTS by taking postgraduate courses (Table E). They also must attend the seminar series of the Department for at least four semesters (Table F). Candidates who already hold a Master degree in a relevant scientific area or who have attended postgraduate classes in relevant subjects can be exempted partially or up to 80 ECTS, after submitting an application to the CPS and provided that candidates have been advised by their research supervisor regarding this matter.

After the completion of the postgraduate courses (excluding the seminars), candidates will undergo a Comprehensive Examination (BIO 810, Table F). 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 their successful completion of the Comprehensive Examination, at the latest by the fifth semester, and provided they have also prepared and presented successfully a research proposal regarding their Ph.D. research dissertation, at the latest by the fifth semester. The two research proposals (Comprehensive Examination and Ph.D. research proposal) will include a detailed description of the aims and methodology and must adhere to internal guidelines and regulations of the Department. Each of these proposals will be presented before a three-member committee (for details about the composition of the three-member committee, see the Admission and Attendance Regulations – Application Requirements on page 16).

After the completion of the theoretical classes and while they carry out their Ph.D. research, candidates are obliged to enroll every semester in the appropriate research stage of their Ph.D. (Table G). Towards the end of their research and during their Ph.D. thesis write-up, students enroll in the ‘Write-up Stage’ (BIO 835-BIO 839, Table G).

For the evaluation of the direction and progress of the candidate’s Ph.D. research work, each candidate must give an oral presentation before the three-member committee regarding their research progress, within one year of their successful completion of the Comprehensive Examination.

The Ph.D. thesis defence takes place before a five-member Examination Committee (for details on the composition of the three-member committee, see the Admission and Attendance Regulations – Application Requirements on page 16). 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.
### TABLE E

**Restricted elective courses (Ph.D. in Molecular Biology)**

<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 610 Molecular Genetics I</td>
<td>10</td>
</tr>
<tr>
<td>BIO 620 Special Topics in Cellular Biology</td>
<td>10</td>
</tr>
<tr>
<td>BIO 630 Nucleic Acids</td>
<td>10</td>
</tr>
<tr>
<td>BIO 640 Molecular Biology I</td>
<td>10</td>
</tr>
<tr>
<td>BIO 650 Special Topics in Bioinformatics</td>
<td>10</td>
</tr>
<tr>
<td>BIO 660 Developmental Genetics: Embryos, Cells and Genes</td>
<td>10</td>
</tr>
<tr>
<td>BIO 670 Imaging in Biological Sciences</td>
<td>10</td>
</tr>
<tr>
<td>BIO 700 Molecular Biology II</td>
<td>10</td>
</tr>
<tr>
<td>BIO 710 Special Topics in Human Genetics</td>
<td>10</td>
</tr>
<tr>
<td>BIO 720 Special Topics in Biochemistry</td>
<td>10</td>
</tr>
<tr>
<td>BIO 730 Molecular Diagnostics</td>
<td>10</td>
</tr>
<tr>
<td>BIO 740 Cellular Communication</td>
<td>10</td>
</tr>
<tr>
<td>BIO 750 Cancer Biology</td>
<td>10</td>
</tr>
<tr>
<td>BIO 760 Topics in Genomics and Proteomics</td>
<td>10</td>
</tr>
<tr>
<td>BIO 770 Biostatistics</td>
<td>10</td>
</tr>
<tr>
<td>BIO 850 Experimental Embryology Course</td>
<td>10</td>
</tr>
<tr>
<td>BIO 860 Molecular Biology of Tumour Viruses</td>
<td>10</td>
</tr>
<tr>
<td>BIO 780 Autonomous Study I</td>
<td>10</td>
</tr>
<tr>
<td>BIO 790 Autonomous Study II</td>
<td>10</td>
</tr>
</tbody>
</table>

### TABLE F

**Compulsory courses (Ph.D. in Molecular Biology)**

<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 800 Postgraduate Seminar series</td>
<td>0</td>
</tr>
<tr>
<td>BIO 801 Postgraduate Seminar series</td>
<td>0</td>
</tr>
<tr>
<td>BIO 802 Postgraduate Seminar series</td>
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</tr>
<tr>
<td>BIO 803 Postgraduate Seminar series</td>
<td>0</td>
</tr>
<tr>
<td>BIO 810 Comprehensive Examination of Ph.D. students</td>
<td>0</td>
</tr>
</tbody>
</table>

### TABLE G

**Research and thesis write-up (Ph.D.)**

<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 820 Ph.D. Research Stage I</td>
<td>30</td>
</tr>
<tr>
<td>BIO 821 Ph.D. Research Stage II</td>
<td>30</td>
</tr>
<tr>
<td>BIO 822 Ph.D. Research Stage III</td>
<td>30</td>
</tr>
<tr>
<td>BIO 823 Ph.D. Research Stage IV</td>
<td>30</td>
</tr>
<tr>
<td>BIO 824 Ph.D. Research Stage V</td>
<td>30</td>
</tr>
<tr>
<td>BIO 825 Ph.D. Research Stage VI</td>
<td>30</td>
</tr>
<tr>
<td>BIO 826 Ph.D. Research Stage VII</td>
<td>30</td>
</tr>
<tr>
<td>BIO 827 Ph.D. Research Stage VIII</td>
<td>30</td>
</tr>
<tr>
<td>BIO 828 Ph.D. Research Stage IX</td>
<td>10</td>
</tr>
<tr>
<td>BIO 835 Ph.D. Thesis Write-up Stage I</td>
<td>30</td>
</tr>
<tr>
<td>BIO 836 Ph.D. Thesis Write-up Stage II</td>
<td>30</td>
</tr>
<tr>
<td>BIO 837 Ph.D. Thesis Write-up Stage III</td>
<td>10</td>
</tr>
<tr>
<td>BIO 838 Ph.D. Thesis Write-up Stage IV</td>
<td>10</td>
</tr>
<tr>
<td>BIO 839 Ph.D. Thesis Write-up Stage V</td>
<td>10</td>
</tr>
</tbody>
</table>

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**Postgraduate Programmes in Medical Genetics**

- Master in Medical Genetics
- Ph.D. in Medical Genetics

**Entry to the Postgraduate Programme**

The Department advertises places for each of the above postgraduate programmes separately, after approval from the relevant authorities of the University. The number of the new places will depend on the specific needs and capacities of the Department of Biological Sciences in collaboration with the Cyprus Institute of Neurology and Genetics (CING). At the time of application, each postgraduate candidate student is encouraged to contact all Faculty members with the aim of identifying a research lab to undertake the research part of his/her studies. Consequently, each new student will have already identified the research lab for postgraduate studies (applies to both the Master and the Ph.D. in Medical Genetics). Pre-requisites for joining the research lab of choice are (a) the consent of the respective Faculty member and (b) the successful completion of courses, identified by the research supervisor. This information is communicated to the candidate at the time of admission to the postgraduate programmes.

Eligible candidates must hold an undergraduate degree from a recognized university with a final general mark of at least 6.5/10 (for graduates from universities in Greece and Cyprus); the equivalent is required for graduates from overseas universities with a different marking system. Those who will hold such a degree by the starting date of the above-mentioned postgraduate programmes are also eligible to apply.

The application must include:

(a) Curriculum Vitae (CV)

(b) Transcripts that provide a full listing of grades for all undergraduate degree courses (also for postgraduate courses, if applicable)

(c) Summary of long-term professional/scholarly/research goals (either in Greek or in English)

Each candidate must provide two recommendation letters, from relevant academics, who must post these directly to the Department. Candidates are encouraged to start the application process to the postgraduate programme well before the completion of their undergraduate study. However, they must hold an undergraduate degree by the start of the postgraduate programme.
The applications are submitted to the Department and are reviewed by a six-member committee (three members from the BIO Department and three members from the CING). The recommendations of the committee are ratified by the Departmental Council. The decisions of the Departmental Council will be forwarded to the School of Pure and Applied Sciences of the University of Cyprus. The Departmental Council reserves the right not to fill all the announced postgraduate places. The committee invites candidates for interviews after a pre-selection process and is not required to invite candidates who have not met the pre-selection criteria.

Contents of the Postgraduate Programmes - General Requirements

The new postgraduate programmes include theoretical and research courses at both the Master’s and Ph.D. levels, as outlined below. Students accepted for the Ph.D. programme who have already obtained a master degree from the University of Cyprus or any other recognized university, may be exempt from some or all of the required ECTS units on a case-by-case determination, after a decision by the Committee of Postgraduate Studies and approval by the Departmental Council. The requirements for obtaining a master or Ph.D. degree are outlined below.

MASTER DEGREE IN MEDICAL GENETICS

For the Master degree in ‘Medical Genetics’ candidates must successfully complete 90 ECTS as follows. There are 5 compulsory courses for a total of 50 ECTS (Table A). An additional course for 10 ECTS units can be selected from a list of restricted elective courses (Table B). Attending the seminar classes (BIO 800 and BIO 801) is also compulsory but is not credited with ECTS units (Table C). Candidates must also write a lab-based research dissertation whose duration is at least one semester and which is worth 30 ECTS units (Table D). Upon completion, this dissertation will be presented in the form of a seminar open to the public. Candidates will also have to successfully pass an oral examination by a three-member Examination Committee. They will be examined mainly on their research dissertation but will also be examined on the courses of their postgraduate programme.

The duration of study is at least three semesters with a maximum of eight semesters.

The Examination Committee consists of the research supervisor who is appointed by the Departmental Council prior to the start of the dissertation, one faculty member from the Department of Biological Sciences, and a third member from the CING.

The Examination Committee is appointed by the Departmental Council. The Chair of the Examination Committee is the research supervisor of the student.

<table>
<thead>
<tr>
<th>TABLE A</th>
<th>Compulsory courses (Master in Medical Genetics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 610</td>
<td>Molecular Genetics I</td>
</tr>
<tr>
<td>BIO 611</td>
<td>Methodologies and technologies applied in Medical Genetics</td>
</tr>
<tr>
<td>BIO 612</td>
<td>Cytogenetics and Genomics</td>
</tr>
<tr>
<td>BIO 613</td>
<td>Gene and Cell Therapy</td>
</tr>
<tr>
<td>BIO 614</td>
<td>Neuroscience and Neurogenetics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE B</th>
<th>Restricted elective courses (Master in Medical Genetics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 620</td>
<td>Special Topics in Cell Biology</td>
</tr>
<tr>
<td>BIO 630</td>
<td>Nuclei Acids</td>
</tr>
<tr>
<td>BIO 640</td>
<td>Molecular Biology I</td>
</tr>
<tr>
<td>BIO 650</td>
<td>Special Topics in Bioinformatics</td>
</tr>
<tr>
<td>BIO 660</td>
<td>Developmental Genetics: Embryos, Cells and Genes</td>
</tr>
<tr>
<td>BIO 670</td>
<td>Imaging in the Biological Sciences</td>
</tr>
<tr>
<td>BIO 700</td>
<td>Molecular Biology II</td>
</tr>
<tr>
<td>BIO 710</td>
<td>Special Topics in Human Genetics</td>
</tr>
<tr>
<td>BIO 720</td>
<td>Special Topics in Biochemistry</td>
</tr>
<tr>
<td>BIO 730</td>
<td>Molecular Diagnostics</td>
</tr>
<tr>
<td>BIO 740</td>
<td>Cellular Communication</td>
</tr>
<tr>
<td>BIO 750</td>
<td>Cancer Biology</td>
</tr>
<tr>
<td>BIO 760</td>
<td>Topics in Genomics and Proteomics</td>
</tr>
<tr>
<td>BIO 770</td>
<td>Biostatistics</td>
</tr>
<tr>
<td>BIO 780</td>
<td>Autonomous Study I</td>
</tr>
<tr>
<td>BIO 790</td>
<td>Autonomous Study II</td>
</tr>
<tr>
<td>BIO 800</td>
<td>Postgraduate seminars</td>
</tr>
<tr>
<td>BIO 801</td>
<td>Postgraduate seminars</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE C</th>
<th>Additional compulsory courses without ECTS credits (Master in Medical Genetics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 800</td>
<td>Postgraduate seminars</td>
</tr>
<tr>
<td>BIO 801</td>
<td>Postgraduate seminars</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE D</th>
<th>Research and dissertation write-up (Master)</th>
</tr>
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<tbody>
<tr>
<td>BIO 830</td>
<td>Master’s Research dissertation</td>
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<tr>
<td>BIO 600</td>
<td>Continuation of Master’s Research dissertation</td>
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</table>
PH.D. DEGREE IN MEDICAL GENETICS

Those enrolled in the Ph.D. Programme must complete 80 ECTS units by taking 5 compulsory postgraduate courses (Table E) and 3 restricted electives (Table F). They are also required to attend the seminar series of the Department for at least four semesters (Tables F and G). Candidates who already hold a master degree in a relevant scientific area or who have attended postgraduate classes in relevant subjects can be exempt partially or up to 80 ECTS units, after submitting an application to the Committee for Postgraduate Studies with the agreement of the research supervisor. Whatever exemptions a candidate may receive, he/she is nevertheless required to attend the seminar series of the Department.

Upon completion of the postgraduate courses (excluding seminars), candidates will undergo a ‘Comprehensive’ examination (BIO810, Table G) according to the University general guidelines of postgraduate studies. This will involve the 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 their successful completion of the ‘Comprehensive’ examination, by the fifth semester at the latest, and provided they have also prepared and successfully presented a research proposal for their Ph.D. dissertation, again, by the fifth semester at the latest. The two research proposals (‘Comprehensive’ examination and Ph.D. research proposal) must include a detailed description of the aims and methodology, and must adhere to internal guidelines and regulations of the Department. Each of these proposals will be presented before a three-member committee appointed by the Committee of Postgraduate Studies of the Department, upon recommendation from the research supervisor. This three-member committee comprises the research supervisor who is also the chair, one faculty member from the Department of Biological Sciences, and one member from the CING. These two committees may or may not have the same member composition. Candidates may take the ‘Comprehensive’ exam twice. Upon completion of the coursework and while undertaking their Ph.D. research, candidates are required to enroll every semester in the appropriate research stage of their Ph.D. (Table H). Towards the end of their research and during their Ph.D. thesis write-up, students enroll in the ‘Write-up Stage’ (BIO835-BIO837, Table H).

For the evaluation of the direction and progress of the candidate's Ph.D. research work, each candidate must give an oral presentation regarding their research progress before the three-member committee; the presentation must take place within one year of their successful completion of the ‘Comprehensive’ exam.

The Ph.D. dissertation thesis cannot be submitted until the candidate has completed at least six semesters of the Ph.D. Programme, has successfully completed his/her ‘Comprehensive’ exam and has obtained the required ECTS units.

The Ph.D. thesis defence takes place before a five-member Examining Committee, which is approved by the Departmental Council after recommendation from the research supervisor. This Committee is made up of the research supervisor, one member from the Department of Biological Sciences, one member of the CING, plus two members from a different university or research institute in Cyprus or abroad or a member of a different department from the University of Cyprus who is familiar with the relevant scientific or research area. The chairperson of this committee will be a faculty member of the Department of Biological Sciences; it may not be the research supervisor. Prior to the 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 original research work.

Prior to the award of the title of Master in Medical Genetics or Ph.D. in Medical Genetics, the candidate must deposit one copy of the thesis in the Library of the University and one copy in the Department of Biological Sciences.

### TABLE E

<table>
<thead>
<tr>
<th>Compulsory courses (Ph.D. in Medical Genetics)</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>BIO 610 Molecular Genetics I</td>
<td>10</td>
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<tr>
<td>BIO 611 Methodologies and technologies applied in Medical Genetics</td>
<td>10</td>
</tr>
<tr>
<td>BIO 612 Cytogenetics and Genomics</td>
<td>10</td>
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<tr>
<td>BIO 613 Gene and Cell Therapy</td>
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<tr>
<td>BIO 614 Neuroscience and Neurogenetics</td>
<td>10</td>
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### TABLE F

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<tr>
<th>Restricted elective courses (Ph.D. in Medical Genetics)</th>
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<tr>
<td>BIO 620 Special Topics in Cell Biology</td>
<td>10</td>
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<tr>
<td>BIO 630 Nuclei Acids</td>
<td>10</td>
</tr>
<tr>
<td>BIO 640 Molecular Biology I</td>
<td>10</td>
</tr>
<tr>
<td>BIO 650 Special Topics in Bioinformatics</td>
<td>10</td>
</tr>
<tr>
<td>BIO 660 Developmental Genetics: Embryos, Cells and Genes</td>
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Course Descriptions

**BIO 610 Molecular Genetics I**

Human Genome and the molecular basis of inheritance, contribution of modern genetics to medical pathology. Genetic phenomena relating to monogenic and polygenic diseases, meaning of mutations and genetic polymorphisms, DNA linkage analysis and molecular diagnostics, genetic predisposition, germinal and somatic mutations. Inherited kidney diseases, hemoglobinopathies, genetic testing and ethical dilemmas in the practice of genetic investigation and diagnosis.

**BIO 611 Methodologies and Technologies applied in Medical Genetics**

The course will consist of lectures, laboratory demonstrations for some lectures, and literature studies. Each lecture will be focused on one major method or a group of methods that are applied in Medical Genetics with relevant application examples. Methodology and technology to be covered include: nucleic acids extraction from various tissues, amplification of nucleic acids by PCR, restriction enzyme analysis, gel electrophoresis, Southern blotting, DNA sequencing, DNA repeats analysis, MLPA analysis, DHPLC analysis, DGGE analysis, SSCP analysis, SNPs analysis, Real Time PCR, analysis of single cells, Northern blotting, Western blotting, microarray technology, linkage analysis, linkage disequilibrium and association analysis, chromosomal analysis and cell cultures.

**BIO 612 Cytogenetics and Genomics**

The aim of this course is to provide education to students in the area of Human Cytogenetics and Genomics. The course will cover all the issues of human cytogenetics and genomics and will focus on understanding the behaviour of small and large size genetic changes and their pathology. In addition, it will target the understanding of medical genomics with special emphasis on the investigation of the human genome in medical research and practice. The lectures will focus on such issues as: introduction to human chromosomes, culture preparation and analysis of chromosomes, chromosomal disorders and syndromes, pre-natal and postnatal chromosomal analysis, laboratory methodologies in cytogenetics, genotyping in clinical practice, cancer genotyping, chromosomal anomalies in leukaemias, lymphomas and solid tumors, international nomenclature of cytogenetics, introduction to medical genomics, genomic disorders and the molecular mechanism of their development, bioinformatics in the analysis of the human genome, laboratory methodologies and technologies in human genomics and investigation of the human genome for research and diagnostic purposes. In addition to the lectures the course will provide bibliographic referrals.

**BIO 613 Gene and Cell Therapy**

The course, Gene and Cell Therapy (GCT), will include the main aspects of gene therapy and cell therapy. The majority of diseases, inherited or acquired later in life, can be considered candidates for genetic or cell therapy. To date, several and various approaches towards this destination have been tried. Some of these attempts have been tested with patients in clinical trials; however the majority is at the research pre-clinical stage since both gene therapy and cell therapy are quite new fields.

The initial scope of this course is to understand the various disease-causing mechanisms and to learn how to identify appropriate targets for gene or cell therapy. Moreover, the various approaches and therapy “tools” which are currently used for gene and cell therapy will be described in detail. Special attention will be given to the methods and routes of delivery and the use of the various genetic therapeutic molecules and cells. Finally, there will be an extensive coverage of certain cases of genetic and cell therapy in clinical trials.

**BIO 614 Neuroscience and Neurogenetics**

The aim of this course is to provide a broad range of education in various aspects of basic and clinical neuroscience and neurogenetics. Basic concepts of the biological and
physiological basis of nervous system function as it relates to human behavior and human disease will be discussed. Principles of cellular and molecular neuronal function and development, as well as of systems of neuroscience will be introduced. General aspects of neurogenetic disorders and their impact in clinical practice will be presented, followed by discussion of specific neurogenetic disorders. These will include the common as well as the rarer inherited disorders of the nervous system such as muscular dystrophies, inherited neuropathies, ataxias, and others. Furthermore, genetic factors that play a role in common neurological and neurodegenerative disorders will be introduced.

**BIO 620 Selected Topics in Cell Biology**


**BIO 630 Nucleic Acids**

The structure and function of nucleic acids (DNA and RNA) is the overall aim in this graduate course. 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 for graduate-level students specializing in molecular biology, biotechnology and molecular genetics and requires introductory-level biochemistry and molecular biology as prerequisites. Some key features of the course include topics in 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 knowledge of 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. 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 outmost 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-lab 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 in 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 Optical Imaging in Biology**

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 key 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 of 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**

This course aims at the theoretical training of students, both in the traditional scientific methodology (Scientific Hypothesis formulation, proof and modification through appropriate experimentation and interpretation of results) and in modern data-driven approaches that have 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. The students will have to study a number of original and review articles on a subject of biological sciences that they will choose in collaboration with their tutor, as well as to study and understand through the use of special laboratory manuals, the various methods of modern molecular biology, so that they become familiar with routine laboratory methods which molecular biologists use in order to achieve their scientific goals.

**BIO 700 Molecular Biology II**

Membrane structure, lipid bilayer, membrane proteins and membrane transport. Carrier proteins, ion channels, membrane potential, intracellular membrane compartments and transport. Regulation of cell cycle and programmed cell death (apoptosis).

**BIO 710 Special Topics in Human Medical Genetics**

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 placed on common diseases or paradigm diseases such as Polycystic Kidney Disease, Tuberous Sclerosis, Huntington's Chorea, Myotonic Dystrophy, Cystic Fibrosis, Thalassaemia, Cardiovascular conditions, Chromosomal abnormalities and others.

**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 Cell Communication**

Tissue architecture and general principles of cellular communication, types of junctions and adhesive structures and molecules, extracellular matrix. Signaling molecules, membrane and intracellular receptors, signaling 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.


**BIO 750 Cancer Biology**

This course requires very good knowledge of molecular biology, molecular genetics, and cellular biology, but it also requires knowledge of the basic principles of immunology, virology, physiology and pathology. The course will include lectures as well as group discussions on topics relating to cancer. Each student must prepare and present an in-depth study on a specific topic that will be determined by the professor at the beginning of the semester. The lectures will include, but are not limited to the following topics: understanding the process of carcinogenesis, definition of cancer, cancer pathology and cancer classification; factors that contribute to the promotion, progression and metastasis of cancer. Emphasis will be placed on the molecular mechanisms leading to carcinogenesis (especially aberrations in cell cycle controls) and metastasis. An important component of this course is to present the current methods for the treatment, prevention (including chemoprevention) and early diagnosis of cancer.

**BIO 760 Selected Topics in Genomics and Proteomics**

Genome Projects of model organisms: lessons learned through the use of novel technology about the structure, functional organisation and the evolution of genetic information. The postgenomic era and the challenge of deciphering gene product function through the use of DNA arrays for high throughput gene expression analysis, protein and antibody arrays, high throughput protein-protein interaction and crystallography approaches.

**BIO 770 Biostatistics**

Study of statistics methodology and analysis and their application in biological systems. Statistics and epidemiology, survival models.

**BIO 780 Autonomous Study I**

**BIO 790 Autonomous 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.

**BIO 800-803 Graduate Seminars**

The students are expected to attend a series of lectures during which invited speakers present research work in the general field of Biological Sciences.
BIO 850 Experimental Embryology Course

The goal of this laboratory course is to introduce vertebrate developmental biology to graduate students interested in pursuing a research thesis in the field, emphasizing both classic and contemporary approaches. During the course, the 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 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 be composed of both lectures as well as literature discussions.

Research Interests of the Academic Staff

• Andreas Constantinou
  Professor

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 tumor cell differentiation. He identified the molecular mechanisms by which genistein induces apoptosis in breast cancer cells. He is now evaluating how soybean components could inhibit carcinogenesis either by binding to the estrogen receptor, or by acting as antioxidants.

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 in the identification of new molecular targets for cancer chemoprevention.

• Constantinos Deltas
  Professor

Professor Deltas established and heads the research Laboratory of Molecular and Medical Genetics. A large part of his research activities is dedicated to the understanding of the molecular genetics and cell biology of various inherited diseases. He has a broad spectrum of interests in the fields of medical genetics and molecular diagnostics aimed, among others, at serving directly the Cypriot patient. Prof. Deltas established and until 2005 directed the Laboratory of Molecular Genetics C at the Cyprus Institute of Neurology and Genetics through which he offered molecular diagnostic services and awareness programs to the population of Cyprus and Greece, for diseases such as various inherited kidney conditions (Polycystic Kidney Disease, Medullary Cystic Kidney Disease, Cystinuria, Alport Syndrome and others), Cystic Fibrosis, Familial Mediterranean Fever, inherited Medullary Thyroid Carcinoma (MEN2A, RET proto-oncogene) and inherited Thrombophilia. With the use of modern techniques of molecular and cell biology and genetics, he aims at the delineation and investigation of hereditary diseases with emphasis on projects such as:

1. Epidemiological studies of the Hellenic and Cypriot populations aimed at generating the genetic map of Cyprus. He is interested in investigating the genetic relationships of the Cypriot population in general and of specific groups or communities, with neighboring peoples and the identification of genes or genetic mutations that were transferred into the Cypriot gene pool from foreign conquerors and visitors (see the 30th Edition of the Annals of the Cyprus Research Center 2004, Cyprus Ministry of Education and Culture, pages 457-489).

2. Genetics of inherited kidney conditions with emphasis on cystic diseases and investigation of molecular pathogenic mechanisms (Two-Hit Hypothesis, role of c-myc proto-oncogene). The subject of intense clinical and genetic research in recent years, in collaboration with a group of nephrologists in Cyprus and abroad, is Familial Hematuria in combination with Thin Basement Membrane Nephropathy and Focal Segmental Glomerulosclerosis. More recently his
group developed a project on an inherited Complement related nephropathy due to a mutation endemic to Cyprus.

3. Development of in cellulo and animal models that will permit better understanding of the structural and functional properties of collagen type IV in relation to renal diseases of the glomerular basement membrane.

His laboratory (http://www.ucy.ac.cy/~deltas.aspx) collaborates with scientists and other laboratories from Cyprus, Greece, Europe and the United States, on projects that led to significant discoveries, among which are the following:

- a. The mapping and cloning of the PKD2 gene and the role of the PKD1 and PKD2 genes in the development of Polycystic Kidney Disease
- b. The mapping of the first gene for the Medullary Cystic Kidney Disease, MCKD1, by investigating families in the area of Pafos
- c. Description of a progressive form of Familial Hematuria that is associated with Thin Basement Membrane Nephropathy and frequently results in renal insufficiency and Nephrotic Syndrome
- d. Implication of two frequent mutations in the MTHFR gene, for the inheritance of a predisposition to increased risk for Hypertensive Nephrosclerosis

• Pantelis Georgiades
  Assistant Professor

Dr. Georgiades heads the Developmental Genetics and Stem Cell Biology/Embryology Research lab, which is interested in understanding the still mysterious embryogenesis and embryo viability at the genetic and cellular level as well as embryonic stem cell biology.

Understanding of the above is very important for the development of genetic or cellular treatments for the most common, but still incurable, pregnancy complications including infertility due to early unexplained miscarriages as a result of early embryo death as well as for the disease of preeclampsia. Moreover, research into embryonic stem cells could contribute to the new field of tissue replacement medicine.

The research of the lab combines cutting-edge embryological, genetic, epigenetic, cellular and molecular methodologies such as culture and microsurgery of embryos, stem cell manipulation, gene inactivation or overexpression in embryos and stem cells, and molecular biology techniques.

The lab shows great interest in the largely unexplored, but clinically important, field of Biology as applied to Medicine concerned with the influences (genetic and cellular) of extraembryonic tissues (such as the trophoblast) on embryo development (with special interest in the remarkable metamorphosis of the initially amorphous embryo, gastrulation) and survival as well as on embryonic stem cells.

• Alexander Kirschel
  Lecturer

The Behavioural Ecology and Evolution Lab 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 in 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 Lab typically involves extensive work in the field, where animals can be observed in their natural environment, but also molecular genetic analyses to examine 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.

• Leonidos Kostrikis
  Associate Professor

The long-term interest of his laboratory is the engineering and production of molecules and technologies for diagnostic or therapeutic applications of clinical importance. His present and future foci of research activity include studies to develop and produce biomedical applications, including diagnostic nucleic-acid-based assays for infectious agents and improved methods of devising and producing novel immunogens and original strategies to induce mucosal immunity. In previous studies, he defined several genetic polymorphisms associated with the transmission of human immunodeficiency virus type-1 (HIV-1) and progression of HIV-1 disease. In previous studies, he developed an automated method for detecting mutations, called "spectral genotyping." Furthermore, he has defined a technology for quantifying copy numbers of genes in human cells, which provides the fundamental component of numerous important applications for rapid and accurate quantification of specific nucleic acid sequences on a "per-cell-basis." He is currently developing technologies aimed at understanding the implications of viral and host determinants on the transmission of HIV-1 and the progression of HIV-1-induced disease. He is also developing diagnostic technologies for the rapid detection of biological agents that may be used as bio-terrorism weapons, such as virulent B anthracis strains and virulent strains of SARS-associated coronavirus. In future studies, his research activities will be broadly focused in the areas of (a) Molecular diagnostics, (b) Immunogen engineering and (c) Pharmacogenetics.
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 so far 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. 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

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.

**Vasileios Promponas**  
*Lecturer*

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:


The Bioinformatics Research Laboratory has ongoing collaborations with research groups in Cyprus, Greece and the United Kingdom.

**Antonis Kyrmizis**  
*Assistant Professor*

The research focus of the Molecular Biology and Biochemistry Laboratory (MBBLab; www.mbblab.net) is on the functional characterisation of molecular motor proteins in mammalian cells. Interest in motor proteins derives from their dynamic role in most cell biological processes: they have been implicated in biological phenomena such as mitotic and meiotic division, chemosensory transduction, early development, signal transduction pathways and axonal transport, to cite some examples.

The current specific interests of the laboratory revolve around the following themes:

- The role of mitotic motors and their interacting proteins in spindle assembly and maintenance and also in mechanisms that regulate centrosome duplication and dynamics in mammalian dividing cells.
- The function of molecular motors in axonal transport and synaptic signalling in mammalian neurons.
- The investigation of the role of aberrant motor protein function in the molecular mechanisms that underlie human neurodegenerative disease and in specific amyotrophic lateral sclerosis, a lethal form of motor neuron disease. The aim is to contribute to the elucidation of the molecular cascades that lead to neuronal cell death, the identification of putative molecular targets and the design of patient molecular diagnostics.

In the framework of this research the laboratory has collaborations with research groups in Germany, Belgium, the UK, Singapore, Denmark, Greece, Spain, Italy and Cyprus.

**Niovi Santama**  
*Associate Professor*

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 isolated from the others. 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 which 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**
*Lecturer*

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 tumor 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 tumor suppressors p53 and pRb. Thus we focus our study 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 which 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 lab head.
Chemi stry

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’s (M.Sc.) and Doctoral (Ph.D.) level.

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 38 Ph.D. degrees and 33 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, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s 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, and must aim 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 personal contribution of the student. 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, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s 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.

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 the 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), consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (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, see Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

Chemistry Graduate Courses (M.Sc. and Ph.D.)

<table>
<thead>
<tr>
<th>Theoretical courses</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>CHE 610 Physicochemical Methods in Inorganic Chemistry II</td>
<td>10</td>
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<tr>
<td>CHE 611 Physicochemical Methods in Inorganic Chemistry I</td>
<td>10</td>
</tr>
<tr>
<td>CHE 612 Physical Chemistry of Polymers</td>
<td>10</td>
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<tr>
<td>CHE 615 Separation Methods and Applications</td>
<td>10</td>
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<tr>
<td>CHE 626 Supramolecular Chemistry</td>
<td>10</td>
</tr>
<tr>
<td>CHE 631 Advanced Organic Chemistry I (Organosulfur and Organonitrogen Chemistry)</td>
<td>10</td>
</tr>
<tr>
<td>CHE 636 Organic Reactive Intermediates</td>
<td>10</td>
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<tr>
<td>CHE 638 Methods for Structure Characterization</td>
<td>10</td>
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<tr>
<td>CHE 640 Basic Principles of Colloid Chemistry</td>
<td>10</td>
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<tr>
<td>CHE 650 Computational Chemistry</td>
<td>10</td>
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<tr>
<td>CHE 651 Raman Spectroscopy</td>
<td>10</td>
</tr>
</tbody>
</table>
Description of Courses

CHE 610 Physical Methods for Inorganic Chemistry I

- Magnetism: Types of magnetic behavior, Van Vleck’s equation, Applications of susceptibility measurements, Intramolecular effect, High spin-Low spin equilibria, Magnetic susceptibilities, Supermagnetism
- Electron Paramagnetic Spectroscopy (EPR): Interpretation of g-values, Hyperfine couplings and zero field splittings, Ligand hyperfine couplings, First row transition metals, EPR of metal clusters
- Electrochemistry: Electrode kinetics, Mass transfer, Voltammetry, Cyclic voltammetry, Polarography, Excavtive Electrolysis, Chemical reaction on electrodes, assignment of voltamographs

CHE 611 Physical Methods for Inorganic Chemistry II

- 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
- 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 isothermophoresis, capillary zone electrophoresis, micellar electrokinetic chromatography, capillary electrophromatography)

CHE 626 Supramolecular Chemistry

Definition and Development of Supramolecular Chemistry; Host–Guest Chemistry; Energetics of Supramolecular Complexes: Experimental Methods; Templates and Self-
Assembly; Molecular Devices; Biological Mimics; Liquid Crystals; Micelles, Liposomes, LB-Films; Layer-by-Layer Assembly of Polyelectrolytes; Fullerenes and Carbon Nanotubes.

**CHE 631 Advanced Organic Chemistry I**
(Oragnosulfur 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**

**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
- 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

**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**
- Introduction to Lasers
- 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**

**CHE 657 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 661 Biochemical Engineering**

**CHE 690 Synthesis, Characterization and Technology of Polymers**

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 (September 2010)
- Master in Environmental Chemistry (2011)
- Master in Medicinal Chemistry (2012)

In the development of these new Master 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 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CHE 710</td>
<td>Quality Assurance Methods</td>
</tr>
<tr>
<td>CHE 711</td>
<td>Spectroscopic and Magnetic Analytical Techniques</td>
</tr>
<tr>
<td>CHE 712</td>
<td>Chromatographic Methods of Analysis</td>
</tr>
<tr>
<td>CHE 713</td>
<td>Food Biochemistry</td>
</tr>
<tr>
<td>CHE 714</td>
<td>Legislation-Admissible Limits-Toxicology</td>
</tr>
<tr>
<td>CHE 715</td>
<td>Mass Spectrometry</td>
</tr>
<tr>
<td>CHE 716</td>
<td>Food Biotechnology</td>
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<tr>
<td>CHE 717</td>
<td>Food Microbiology</td>
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<tr>
<td>CHE 740</td>
<td>Literature Study or Laboratory Exercise or Industrial Exercise</td>
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<tr>
<td>CHE 741</td>
<td>Literature Study or Laboratory Exercise or Industrial Exercise</td>
</tr>
<tr>
<td>CHE 750</td>
<td>General Laboratory Course</td>
</tr>
</tbody>
</table>

Description of Courses

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

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 or Laboratory Exercise or Industrial Exercise

CHE 741 Literature Study or Laboratory Exercise or Industrial Exercise

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 Regulations/Directives-Maximum Allowable Levels-Toxicology
- CHE 715 Mass Spectrometry
- CHE 779 Heavy Metal Chemistry & Radiochemistry
- CHE 780 Atmospheric Pollutants
- CHE 781 Environmental Physical Chemistry
- CHE 782 Environmental Catalysis and Technology
- CHE 783 Hydrosphere
- CHE 740 Literature Study or Laboratory Exercise or Industrial Exercise
- CHE 750 General Laboratory Course
- CEE 582 Hazardous Waste Management

Description of Courses
CHE 714 Regulations/Directives-Maximum Allowable Levels-Toxicology
See course description above.

CHE 715 Mass Spectrometry
See course description above.

CHE 779 Heavy Metal Chemistry & Radiochemistry

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 NOx and catalytical techniques for air pollution control. Application of heterogeneous catalysis in energy production from biofuels.

CHE 783 Hydrosphere

CHE 740 Literature Study or Laboratory Exercise or Industrial Exercise
See course description above.

CHE 750 General Laboratory Course
See course description above.
CHE 582 Hazardous Waste Management

MASTER IN MEDICINAL CHEMISTRY
Table of Courses

- CHE 710 Laboratory Quality Assurance
- CHE 792 Pharmaceutical Analysis and Bioanalytical Chemistry
- 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 740 Literature Study or Laboratory Exercise or Industrial Exercise
- CHE 741 Literature Study or Laboratory Exercise or Industrial Exercise
- CHE 750 General Laboratory Course

Description of Courses

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 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.

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

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

CHE 740 Literature Study or Laboratory Exercise or Industrial Exercise
CHE 741 Literature Study or Laboratory Exercise or Industrial Exercise
CHE 750 General Laboratory Course
See course description above.

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
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 (European Union)
2. Human Capital and Mobility (European Union)
3. Training and Mobility of Researchers (European Union)
4. Advanced Stimuli Responsive Materials Projects (JHPC/NEDO, Japan)
5. Research Training Networks (5th Framework Programme)
6. Environment and Sustainable Development (5th Framework Programme)
7. Quality of Life (5th Framework Programme)
8. Growth (5th Framework Programme, European Union)
10. Interreg III (7th Framework Programme, European Union)

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 MHz Avance Bruker NMR Spectrometer
- 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
- 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, CO2, CO, H2 and CH4 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

- Nikolaos E. Chronakis
  Assistant Professor
  His research is focused on:
  a) The tether-directed remote functionalization of fullerene C60. This method is used for the synthesis, characterization and the development of new C60-cyclophane type bis- and trisadducts of [60] fullerene for the construction of functional supramolecular assemblies. Extension of this method can give facile access to enantiomerically pure Bingel multiadducts with fascinating optoelectronic properties and strongly antioxidant behaviour.
  b) The synthesis of chiral [60]fullerene helical polymers and fullerene-porphyrin conjugates for Photoinduced Electron Transfer.
  c) The synthesis and characterization of macrocyclic oligomalonates. This family of molecules show pronounced...
crystallizability and arrange into columnar stacks, forming narrow channels and pores extended through the entire single crystal. Such systems promise to form columnar assemblies featuring pores for molecular recognition and transport.

- **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 H2 production. To achieve these goals, new material-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, CO2, NOx, N2O and H2 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 NOx control by the use of H2 in the low-temperature range of 120-2000°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.

- **Sophia C. Hayes**  
  **Assistant Professor**  
  Her research interests extend in different fields but have as a common denominator an interest in understanding the basic photochemical & photophysical behavior of the system under study. Current research focuses on the following topics:

  a) Biophysics of proteins that are involved in a variety of illnesses, and especially the mechanisms and dynamics of their folding process
  b) Photochemistry of conjugate polymers for use in optoelectronic devices
  c) Photochemistry of environmentally important molecules such as nitryl chlorides
  d) Proton-coupled electron transfer mechanism in metal complexes

- **Constantina P. Kapnissi-Christodoulou**  
  **Lecturer**  
  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 technique CE-MS for the separation, detection and quantitation of pharmaceutical compounds
  - Application of the optimum separation conditions in biological, natural and food samples
  - Determination of the most effective sample pre-treatment methods in regards to recovery, time, difficulty and reproducibility
  - Imaging of individual amyloid plaques for the diagnosis of Alzheimer’s disease using near-field third-harmonic-generation (THG) microscopy

- **Anastasios D. Keramidas**  
  **Associate 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**  
  **Associate 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**  
  In the area of Physical Chemistry of Colloids and Interfaces, the research emphasis is on using surfactant or polymer/surfactant systems for the production of composite
organic/inorganic materials with interesting electrical, optical, etc., properties. The sol-gel method is used to produce novel silicate materials that are used for water purification (emphasis placed in the removal of boron). The Langmuir-Blodgett method is used to study the surface properties of metallorganic surfactants. Finally, the influence of electrolytes in lipid systems is examined experimentally and theoretically.

In the area of Computational Chemistry, computations using Molecular Mechanics and Dynamics are carried out, with the goal of modelling the structure of electrolyte solutions in the vicinity of surfaces and the salting-out effect of organic compounds.

The group currently collaborates with the Department of Materials, ETH (Zurich, Switzerland), with the French Nuclear Research Centre in Marcoule (France), with the Max Planck Institute for Colloids (Golm, Germany), with the University of Graz (Austria), the University of Granada and the Complutense University of Madrid (Spain), with the University of Patras and the National Research Institute (Greece), and with the Department of Microscopy of the Cyprus Institute of Genetics.

- **Ioannis Pashalidis**
  
  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 poly cyclic organic compounds with well-defined rigid geometries.

- **Athanassios Nicolaides**
  
  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 poly cyclic organic compounds with well-defined rigid geometries.

- **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**
  
  Lecturer

  Her research programme addresses a wide range of fundamental problems in Biophysical/Bioanalytical Chemistry. Fourier transform infrared spectroscopy, Attenuated Total Reflection FTIR, time-resolved step-scan FTIR, and FTIR imaging are spectroscopic tools for the investigation of basic mechanisms in Chemistry and Biochemistry. Current projects include: a) Oxygen sensor proteins: HemAT and DOS. Sensory proteins are proteins that allow cells to respond to external stimuli. The key issues in the study of heme-based HemAT (Heme-based Aerotactic Transducer) and DOS (Direct Oxygen Sensor) O2-sensory proteins are to elucidate how each of the crucial processes of sensing, including recognition, discrimination, and allostery is achieved. Time-resolved step-scan FTIR and specific mutations in the residues of HemAT and DOS are applied to investigate ligand recognition and discrimination. b) Chemistry of Nitrate and Nitrite. Nitrogen is an essential element for living organisms. It is of great interest to study bacterial metabolic pathways that can effectively determine and characterize the formed species, assess their behavior under physiological conditions and evaluate their possible use in the decorepation of radionuclides from contaminated persons.
reduce nitrate to harmless dinitrogen gas, in particular of organisms that can be found in freshwater or marine sediments. Denitrification is the process of reducing nitrate into dinitrogen gas: nitrate $\rightarrow$ nitrite $\rightarrow$ NO $\rightarrow$ N$_2$O $\rightarrow$ N$_2$. The first step is catalyzed by molybdenum containing nitrate reductases (Nar), the second by either cytochrome cd1 or copper containing enzymes (Nir), the third by nitric oxide reductases (NOR), and finally nitrous oxide reductases (N$_2$OR) release N$_2$. Her interest is to apply time-resolved FTIR spectroscopy to investigate the molecular mechanisms by which Nar and Nir convert NO$_3^-$ and NO$_2^-$, respectively.

• Anastasios J. Tasiopoulos
  Assistant 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 Secretary
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http://www.ucy.ac.cy/chem-en
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, from the academic year 2009-2010, offers the following four master’s programmes:

- Master in Computer Science (MCS)
- Master in Internet Computing (MIC)
- Master in Intelligent Systems (MIntS)
- Professional Master in Advanced Information Technologies (PM)

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 organisations 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 140 research programmes that are funded by the European Union, most of them within the Sixth Framework Programme “Information Society Technologies.” This budget exceeds twelve 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:

- 8th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP 2008), 9 - 11 June 2008, Ayia Napa
- 22nd European Conference on Object-Oriented Programming (ECOOP 2008), 2 - 7 July 2008, Paphos
- Conference on Virtual Systems and Multimedia Dedicated to Digital Heritage (VSMM 2008), 20 - 26 October 2008, Limassol
- 7th European Conference on e-Learning (ECEL 2008), 5 - 7 November 2008, Ayia Napa
- EUGridPMA Meeting, January 2009, Nicosia
- 2nd Workshop for Intelligent Signal Processing Algorithms and Systems, July 2009, Nicosia
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 AIX, Solaris 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’s 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 credits correspond to eight courses and a Master’s thesis. More specifically:

- Seven postgraduate courses of 8 ECTS each (any seven from the postgraduate course list)
- One postgraduate course of 4 ECTS (CS 671 Research Methodologies in Computer Science)
- Master’s thesis worth of 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 credits 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 credits correspond to eight courses and a thesis. More specifically:

- Seven postgraduate courses of 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 of 4 ECTS (EPL 671 Research Methodologies in Computer Science)
- Master’s thesis worth of 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).

**Course Descriptions**

Unless otherwise stated, all courses are credited with 8 ECTS.

**CS 601 Distributed Systems**

*Specialisation 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**

*Specialisation Course for MIC, PM*  
*Restricted Choice for MCS, MIntS*

This course examines key issues and principles of internet-centric infrastructures and systems. Topics include web and media streaming protocols, web traffic measurement and characterization, web caching and content delivery networks, peer-to-peer networks and publish/subscribe systems. Related topics from recent research literature will also be examined.

**CS 603 Advanced Software Engineering**

*Specialisation Course for PM*  
*Restricted Choice for MCS, MIC, MIntS*


**CS 604 Artificial Intelligence**

*Specialisation Course for MIntS*  
*Restricted Choice for MCS, MIC, PM*


**CS 605 Advanced Computer Architecture I**

*Specialisation 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**

*Specialisation 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.

**CS 607 Visual Computing**

Specialisation Course for PM  
Restricted Choice for MCS, MIntS, PM

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 646 Advanced Topics in Databases**

Specialisation 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 και OQL), Object-Relational Databases (ORDBMS), Data Stream Management Systems (DSMS) and topics in Database Security.

**CS 651 Data Management for Mobile Computing**

Specialisation Course for MIC, PM  
Restricted Choice for MCS, MIntS


**CS 652 E-Commerce**

Specialisation Course for MIC, PM  
Restricted Choice for MCS, MIntS


**CS 653 Computer Games Software Technology**

Specialisation 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 654 Learning Technologies and Open and Distance Learning**

Specialisation Course for MIC, PM  
Restricted Choice for MCS, MIntS

Learning Technologies and Distance Learning Systems, Learning theories and Distance Learning, systems for developing learning material, Standards and quality control of learning material, Courses and educational software, Exploration of active learning techniques, Research issues in Distance Learning.

**CS 655 Advanced Computer Architecture II**

Specialisation 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**

Specialisation Course for PM  
Restricted Choice for MCS, MIC, MIntS


**CS 657 Wireless Computer Networks**

Specialisation 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**

Specialisation Course for MIntS  
Restricted Choice for MCS, PM, MIC


**CS 659 Design on Embedded Systems**

Specialisation 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
Specialisation Course for MIC, MIntS
Restricted Choice for MCS, PM

CS 661 Multi-Agent Systems
Specialisation Course for MIntS
Restricted Choice for MCS, MIC, PM

CS 662 Machine Learning and Data Mining
Specialisation Course for MIntS
Restricted Choice for MCS, MIC, PM

CS 663 Computational Logic
Specialisation Course for MIntS
Restricted Choice for MCS, MIC, PM

CS 664 System Analysis and Verification
Restricted Choice for MCS, MIC, MIntS, PM

CS 665 Constraint Solving Methods
Specialisation Course for MIntS
Restricted Choice for MCS, MIC, PM

CS 666 Computational Bioscience
Specialisation Course for MIntS
Restricted Choice for MCS, MIC, PM
General framework and systems of Abductive and Inductive Logic Programming. Application of methods from the framework to problems and topics of Molecular Biology such as Gene Pathways, Signal and Regulating Networks, Metabolic Networks and Gene Therapy.

CS 667 Neuroinformatics
Specialisation Course for MIntS
Restricted Choice for MCS, MIC, PM
Neuroinformatics or Computational Neuroscience is an emerging and dynamically developing field aiming to elucidate the principles of information processing by the nervous system as well as applying information technology to the processing of neuroscientific data. This course aims to develop and apply computational methods for studying brain and behaviour as well as understanding the dynamics of the conscious mind. Basic biophysics of single neurons. Conductance-based neuron models: the generation of action potentials and the Hodgkin and Huxley equations, dendritic trees, the propagation of action potentials, cable theory, compartmental models. Modelling synapses. Spiking neuron models and response variability: leaky integrator and integrate-and-fire type neuron models, spike time variability. Neuronal coding, Synaptic plasticity. Bottom-up/top-down modelling of the brain. Modelling consciousness.

CS 671 Research Methodologies in Computer Science (4 ECTS)
Compulsory Course for MCS, MIC, MIntS
Seminars/lectures in Computer Science. Research literature reviewing. Presentation of technical study.

CS 672 Computer Science Professional Practices Seminar (4 ECTS)
Compulsory Course for PM
This module includes: (a) A series of a two-hour introductory lectures regarding the basic professional practices, for example the use of the library and of digital libraries, the searching for and studying of relevant references, the review of a technical subject or subfield, the review of scientific texts, the writing and substantiation of technical texts, the preparation of technical lectures, etc. (b) Seminars offered by academics of the Computer Science Department and visiting academics from other universities, research centers and industry.
CS 673 Algorithmic Game Theory
Specialisation 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
Specialisation Course for MIC, PM
Restricted Choice for MCS, MIntS

CS 675 Web Services and Service Oriented Computing
Specialisation 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 (U2EE, NET, etc). Problems and challenges. Information modelling and representation (ontologies, RDF and OWL protocols, etc). Cooperative Information Systems and service composition.

CS 676 Software Architectures
Specialisation Course for PM
Restricted Choice for MCS, MIC, MIntS

CS 677 Component-Based Systems
Specialisation Course for PM
Restricted Choice for MCS, MIC, MIntS

CS 678 Temporal Information Systems in Medicine
Specialisation Course for MIntS
Restricted Choice for MCS, MIC, PM

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
  Assistant 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
Associate Professor

• 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
Assistant Professor

• Antonis Kakas
Professor
Artificial Intelligence, Knowledge Representation and Reasoning, Cognitive Agents, Machine Learning, Computational Bioscience.

• Elpida Keravnou-Papailiou
Professor
Artificial Intelligence in Medicine.

• Marios Mavronicolas
Professor

• George Pallis
Lecturer
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
Assistant Professor

• 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

• Yiannos Sazeides
Assistant Professor

• 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
Assistant Professor
Computer Architecture, Memory Hierarchy and Advanced Memory Technologies, Architecture-Aware Optimizations for Database Workloads, and Power-Aware Optimizations.

• Vasos Vassiliou
Lecturer
High-Speed Networks (MPLS), Mobile Networks (MIP, Ad-hoc, Sensor), Wireless Telecommunications (UMTS), Traffic Engineering.

• Demetris Zeinalipour
Lecturer
Data Management and Networking: Distributed Query Processing, Storage and Retrieval Methods for sensor and Peer-to-Peer Systems, Network Data Management.

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Maria Kittira
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e-mail: manak@cs.ucy.ac.cy
http://www.ucy.ac.cy/cs-en
# Table of Specialisation Courses of the Master Programmes

<table>
<thead>
<tr>
<th>Code and Title of Courses</th>
<th>Master in Computer Science</th>
<th>Master in Internet Computing</th>
<th>Master in Intelligent Systems</th>
<th>Master in Advanced Information Technologies (Professional)</th>
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<td>CS 601 – Distributed Systems</td>
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<tr>
<td>CS 663 – Computational Logic</td>
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<td>CS 664 – System Analysis and Verification</td>
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<td>CS 665 – Constraint Solving Methods</td>
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<td>CS 666 – Computational Bioscience</td>
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<td>CS 667 – Neuroinformatics</td>
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<td>CS 673 – Algorithmic Game Theory</td>
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<td>CS 675 – Web Services and Service Oriented Computing</td>
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<td>CS 676 – Software Architectures</td>
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<td>CS 699 – Special Topics in Computer Science</td>
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<td><strong>Courses from other Departments</strong></td>
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<tr>
<td>ECE 621 – Random Processes</td>
<td>✓</td>
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<tr>
<td>ECE 635 – Optimization Theory and Applications</td>
<td>✓</td>
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<tr>
<td>ECE 658 – Computer Systems Performance Evaluation and Simulation</td>
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</table>
Postgraduate Studies Programme

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.

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.

For more information see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or, the Department’s Secretariat.
MASTER IN APPLIED MATHEMATICS

Regulations
To obtain a Master degree in Applied Mathematics successful completion of a minimum of 90 ECTS is required.

Each course corresponds to 10 ECTS, the Master’s thesis to 15 ECTS and Seminars to 5 ECTS.

A postgraduate student may attend at most two seminars.

Indicative Programme of Studies

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<thead>
<tr>
<th>Options</th>
<th>ECTS/Course</th>
<th>Total ECTS</th>
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<td>2 Seminars</td>
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<td><strong>TOTAL</strong></td>
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<td>or</td>
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<td>6 Compulsory Courses</td>
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<td>1 Seminar</td>
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<tr>
<td>Master Thesis</td>
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<tr>
<td><strong>TOTAL</strong></td>
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List of Courses

Compulsory courses

**Category I**
Two of the following:
- MAS 601 Measure 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 680 Seminar in Applied Mathematics I
- MAS 681 Seminar in Applied Mathematics II
- MAS 682 Classical Mechanics
- MAS 683 Fluid Dynamics
- MAS 684 Topics in Applied Mathematics I
- MAS 685 Topics in Applied Mathematics II
- MAS 686 Topics in Applied Mathematics III
- MAS 687 Topics in Differential Equations
- MAS 688 Topics in Differential Equations
- MAS 689 Topics in Differential Equations

Elective courses

- MAS 602 Fourier Analysis
- MAS 605 Elliptic Partial Differential Equations of Second Order
- MAS 608 Evolution Differential Equations with Partial Derivatives of Second Order
- 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 General Relativity

PH.D. IN MATHEMATICS – Applied Mathematics

For the fulfillment of a Doctor of Philosophy Degree the requirements are:

(1) **Successful completion of 120 ECTS at the postgraduate level** in accordance with the provisions of the programme of studies of the Department. Students with a Master degree are partially or fully exempted from this requirement.

(2) **Comprehensive Examination (CE)**
Students should successfully complete the CE at the latest by the fifth semester of their studies.

The Comprehensive Examination (CE) consists of two parts:

A. Written Comprehensive Examination (WCE): The written examination is comprised of four parts, as explained below.

B. Oral Comprehensive Examination (OCE): the student will be tested in two subject areas selected by the student’s research advisor. The oral examination takes place in
front of a three member committee, appointed by the Departmental Graduate Committee as suggested by the student’s research advisor.

Upon successful completion of the WCE, the candidate has the right to attempt the OCE. Success in the WCE means securing a score of at least 65 out of 100. The WCE in applied mathematics lasts four (4) hours and all four areas examined count equally (25% each).

A student is allowed to register for both the WCE and the OCE in the same semester, with the approval of his/her advisor. The student must first pass the WCE and then proceed to take the OCE. Once the student passes the WCE, a research advisor will be appointed.

Each student has at most two chances to pass each comprehensive examination. If the student is not successful the second time, he/she will be dismissed from the doctoral programme.

**Syllabus for the Written Comprehensive Examination (WCE) in Applied Mathematics**

**Part one**
Properties of real numbers, continuity, differentiability, integrability (Riemann). Metric spaces, Compactness, Connectedness, Theorems of Bolzano-Weierstrass, Heine-Borel and the Baire category theorem, uniform continuity, convergence of sequences and series, algebras, outer measures, Borel and Lebesgue measures, measurable functions, comparison theorems of Lebesgue, monotone convergence theorems and Fatou’s lemma. Measures with sign, Radon-Nikodym theorem, product measures, Fubini’s theorem, basic theory of L^q spaces, Radon measures, applications to probability theory (random variables, law of large numbers, conditional probability, central limit theorem).

**Part two**

For the **third** and **fourth** part of the WCE, two out of the following four areas may be chosen:

**Applied Mathematics**

**Partial Differential Equations**

**Numerical Analysis**
Numerical Solution of Non-linear equations, Vector and Matrix Norms, Solution of Linear Systems (direct and iterative methods), Approximation of Eigenvalues and Eigenvectors, Polynomial Interpolation (Lagrange and Hermite), Numerical Integration (Newton – Cotes, Gauss).

**Numerical Solution of Ordinary Differential Equations**

**MASTER IN PURE MATHEMATICS**

**Regulations**
To obtain a Master degree in Pure Mathematics successful completion of a minimum of 90 ECTS is required.

Each course corresponds to 10 ECTS, the Master’s thesis to 15 ECTS and seminars to 5 ECTS.

A postgraduate student may attend at most two seminars.

Regular meetings of the teaching staff will take place for the programme of Pure Mathematics (Undergraduate and Postgraduate) where it will be decided which courses will be offered and by whom they will be taught.

**Indicative Programme of Studies**

<table>
<thead>
<tr>
<th>Options</th>
<th>ECTS/Course</th>
<th>Total ECTS</th>
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<td>4 Compulsory Courses</td>
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<tr>
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<tr>
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<tr>
<td>4 Elective Courses</td>
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</table>
List of Courses

**Compulsory Courses**
- MAS 601 Measure and Integration
- MAS 606 Function Theory of one Complex Variable
- MAS 632 Riemannian Geometry
- MAS 627 Group Representation Theory I or MAS 624 Introduction to Commutative Algebra

**Elective Courses**
- MAS 602 Fourier Analysis
- MAS 604 Functional Analysis
- MAS 605 Elliptic Partial Differential Equations with Partial Derivatives of Second Order
- MAS 607 Function Theory of Several Complex Variables
- MAS 608 Evolution Differential Equations with Partial Derivatives of Second Order
- 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 Algebraic Coding Theory
- MAS 623 Number Theory
- MAS 624 Introduction to Commutative Algebra
- MAS 625 Theory of Groups
- MAS 626 Field and Galois Theory
- MAS 627 Group Representation Theory I
- MAS 628 Group Representation Theory 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 Lie 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 642 Topics in Geometry III
- MAS 643 Seminar in Pure Mathematics – Analysis I
- MAS 644 Seminar in Pure Mathematics – Analysis II
- MAS 645 Seminar in Pure Mathematics – Algebra I
- MAS 646 Seminar in Pure Mathematics – Algebra II
- MAS 647 Seminar in Pure Mathematics – Geometry I
- MAS 648 Seminar in Pure Mathematics – Geometry II
- MAS 660 Probability Theory
- MAS 682 Classical Mechanics

**Ph.D. IN MATHEMATICS – Pure Mathematics**
For the fulfillment of a Doctor of Philosophy Degree the requirements are:

1. **Successful completion of 120 ECTS at the post-graduate level** in accordance with the provisions of the programme of studies of the Department. Students with a Master degree are partially or fully exempted from this requirement.

2. **Comprehensive examination (CE)**
The Comprehensive Examination comprises two sections:

   A. **Written Comprehensive Examination (WCE):** the written examination consists of an exam essay divided in four parts.

   B. **Oral Comprehensive Examination (OCE):** on two subjects designated by the Research Advisor of the student. The student is examined orally before a three-member committee appointed by the Postgraduate Studies Committee of the Department after recommendation by the Research Advisor.

3. **Oral exam**
The requirements are the same as for the Ph.D. in Applied Mathematics (see relevant paragraph).

4. **Doctoral thesis**
The requirements are the same as for the Ph.D. in Applied Mathematics (see relevant paragraph).

5. **Defence of the thesis**
The requirements are the same as for the Ph.D. in Applied Mathematics (see relevant paragraph).
The Syllabus for the Written Comprehensive Examination (WCE)

Part one

Part two
– Complex plane and stereographic projection. Mobius Transformations.
– Cauchy-Riemann equations, harmonic functions.

Part three

Part four

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

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<td>1st Semester</td>
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<td>MAS 655 Survey Sampling</td>
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<td>MAS 658 Simulation and Data Analysis</td>
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<td>MAS 850 Seminar in Applied Statistics I **</td>
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<td>2nd Semester</td>
<td>MAS 653 General Linear Models*</td>
<td>10</td>
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<td>MAS 659 Multivariate Analysis*</td>
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<td>MAS Elective Course I+</td>
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<td>MAS 851 Seminar in Applied Statistics II **</td>
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<td>3rd Semester</td>
<td>MAS 657 Analysis of Discrete Data*</td>
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<td>MAS Elective Course II+</td>
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<td>MAS Elective Course III+</td>
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OPTIONS

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<td>MAS 654 Nonparametric Statistics*</td>
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<td>MAS 656 Time Series Analysis*</td>
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<td>MAS 661 Topics in Statistics I</td>
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<td>MAS 663 Topics in Statistics III</td>
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<td>MAS 664 Bayesian Statistics*</td>
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<td>MAS 665 Computational Statistics*</td>
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<tr>
<td>MAS 666 Biostatistics*</td>
<td>10</td>
</tr>
<tr>
<td>MAS 670 Theory of Statistics</td>
<td>10</td>
</tr>
</tbody>
</table>
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 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
For the fulfilment of a Doctoral degree in statistics, the following are required:

1. Successful completion of 60 ECTS at postgraduate level, in accordance with the provisions of the programme of studies of the Department. Students with a Master 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.

3. Seminar
All doctoral students must enrol in the Seminar of Applied Statistics for at least 6 semesters.

4. Doctoral thesis
The requirements are the same as for the Ph.D. in Applied Mathematics (see relevant paragraph).

5. Defence of the thesis
The requirements are the same as for the Ph.D. in Applied Mathematics (see relevant paragraph).

The Syllabus Content for the Comprehensive Examination

PROBABILITY THEORY
Axiomatic foundation
Measure theoretic probability, measure theory and integration, σ-algebras, monotone classes, events, probability spaces, stochastic independence, 0-1 laws, the Borel-Cantelli lemmas.

Random variables
Random variables, distribution of a random variable, continuous and discrete random variables, distribution of a function of a random variable, random vectors.

Expectation
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.

Limit theorems
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.

Martingales and random walks
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
Estimation theory
Random sample, statistic, families of distributions, exponential families. Estimators (maximum likelihood, least squares, moment estimators, Bayes estimators). Properties of estimators, unbiasedness, sufficiency,

**Theory of testing statistical hypothesis**

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.

For more information on the comprehensive examination, the oral examination, the Doctoral Thesis and the Defence of the Thesis, see Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

**Course Descriptions**

**MAS 601 Measure and Integration**


**MAS 602 Fourier Analysis**


**MAS 603 Partial Differential Equations**


**MAS 604 Functional Analysis**


**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**


**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**


**MAS 609 Stochastic Analysis**

Review of the basic notions of probability theory, stochastic integration, Ito’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**


**MAS 612 Measure and Probability**


**MAS 613 Ordinary Equations**


**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 621 Numerical Linear Algebra**


**MAS 622 Algebraic Coding Theory**


**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**


**MAS 626 Field and Galois Theory**


**MAS 627 Group Representation Theory I**


**MAS 628 Group Representation Theory II**


**MAS 629 Topics in Algebra I**
**MAS 630 Topics in Algebra II**
**MAS 631 Differential Topology**


**MAS 632 Riemannian Geometry**


**MAS 633 General Relativity**


**MAS 634 Algebraic Topology I**


**MAS 635 Lie Groups and Lie 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  
Topics from Differential Geometry, Algebraic Geometry and Algebraic Topology.

MAS 650 Mathematical Statistics  

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  

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  

MAS 657 Statistical Analysis of Discrete Data  

MAS 658 Simulation and Data Analysis  

MAS 659 Multivariate Analysis  

MAS 660 Probability Theory  
Measure spaces and σ-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  

**MAS 666 Biostatistics**


**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**


**MAS 672 Numerical Solution of Partial Differential Equations**


**MAS 673 Finite Element Methods**


**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**


**MAS 683 Fluid Dynamics**


**MAS 684 Topics in Applied Mathematics I**

**MAS 685 Topics in Applied Mathematics II**

**MAS 686 Topics in Applied Mathematics III**

Topics from different areas of Applied Mathematics.

**MAS 687 Topics in Differential Equations I**

**MAS 688 Topics in Differential Equations II**

**MAS 689 Topics in Differential Equations III**

Topics from Ordinary Differential Equations and Partial Differential Equations.

**Research Interests of the Academic Staff**

- **Tasos Christofides**  
  Professor  

- **Cleopatra Christoforou**  
  Lecturer  
• Pantelis Damianou  
  *Professor*  

• Konstantinos Fokianos  
  *Associate Professor*  
  Integer-Valued Time Series, Semiparametric Statistics, Analysis of Spatial Data, Analysis of Large Data Sets, Bioinformatics.

• Georgios Georgiou  
  *Professor*  

• Andreas Karageorghis  
  *Professor*  

• Alexandros Karagrigoriou  
  *Associate Professor*  
  Statistical Modelling, Model Selection Criteria, Time Series, Bio-Statistics.

• Stamatis Koumandos  
  *Professor*  
  Harmonic analysis, Orthogonal polynomials, Special functions, Approximation Theory.

• George Kyriazis  
  *Associate Professor*  
  Approximation Theory, Harmonic Analysis.

• Emmanuel Milakis  
  *Lecturer*  
  Partial Differential Equations, Free Boundary Problems, Geometric Measure Theory.

• Christos Pallikaros  
  *Associate Professor*  
  Group Representation Theory, Representations of Hecke Algebras.

• Efthathios Paparoditis  
  *Professor*  
  Time Series Analysis, Bootstrap Methods, Multivariate Analysis, Non-parametric Statistics.

• Evangelia Samiou  
  *Associate Professor*  
  Riemannian Geometry.

• Theofanis Sapatinas  
  *Professor*  

• 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. Es) 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  
  *Associate Professor*  

Contact details  
Department Secretary  
Tel.: 22892600  
Fax: 22892601  
http://www.ucy.ac.cy/mas
The objective of the postgraduate programme in Physics is to promote research and knowledge in the areas of physics. The Department offers postgraduate 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 Programme
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 credit units (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.

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

Table of Courses

<table>
<thead>
<tr>
<th>Core Courses for Master and Ph.D.</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 625 Quantum Mechanics I</td>
<td>10</td>
</tr>
<tr>
<td>PHY 626 Quantum Mechanics II</td>
<td>10</td>
</tr>
<tr>
<td>PHY 631 Electromagnetism</td>
<td>10</td>
</tr>
<tr>
<td>PHY 641 Statistical Physics</td>
<td>10</td>
</tr>
<tr>
<td>PHY 811 Experimental Physics</td>
<td>10</td>
</tr>
<tr>
<td><strong>Master</strong></td>
<td></td>
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<tr>
<td>Specialization Course</td>
<td>10</td>
</tr>
<tr>
<td>PHY 860 Master Thesis I</td>
<td>10</td>
</tr>
<tr>
<td>PHY 861 Master Thesis II</td>
<td>20</td>
</tr>
<tr>
<td>PHY 862 Master Thesis III</td>
<td>30</td>
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<tr>
<td><strong>Ph.D.</strong></td>
<td></td>
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<tr>
<td>Three Specialization Courses</td>
<td>30</td>
</tr>
<tr>
<td>One Course outside the area of specialization</td>
<td>10</td>
</tr>
<tr>
<td>PHY 870 Research Stage I</td>
<td>30</td>
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<tr>
<td>PHY 871 Research Stage II</td>
<td>30</td>
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<tr>
<td>PHY 872 Research Stage III</td>
<td>30</td>
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<tr>
<td>PHY 873 Research Stage IV</td>
<td>30</td>
</tr>
<tr>
<td>PHY 880 Writing Stage I</td>
<td>15</td>
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<tr>
<td>PHY 881 Writing Stage II</td>
<td>15</td>
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</tbody>
</table>

Description of Courses

**Core Courses**

**PHY 625 Quantum Mechanics I**
2. Quantum Phenomena (recent double-slit experiments – Complementarity – Macroscopic Q.M.: Superconductivity)
3. The formalism of Q.M. (Dirac formalism, and some “dangers”)
4. Quantum Kinematics and Dynamics: Symmetries and Generators (invariance under space-time transformations (Galilei) – extraction of dynamical variables – Schrödinger and Heisenberg Pictures – Conservation Laws)
5. Position and Momentum Representations (Transfer Matrix – Propagators – Green’s functions for 1-D transmission problems)
6. Harmonic Oscillator (formal relation with other systems, i.e. with Coherent, Squeezed and Intelligent States in Quantum Optics)
7. Angular Momentum (Orbital and Spin) (as a follow up of 4. – Lie groups and algebra Pauli etc. – Rotation Matrices – Irreducible Tensor Operators – Winger Eckart theorem)
8. Systems with Bound States (Central potentials in 2-D and 3-D)
9. Time-dependent Phenomena (Spin-Resonance (Rabi oscillations) in two-state systems (rotation-axis representation of Schwinger, Rabi & Van Vleck))
10. Adiabatic Approximation – Geometric Phases (Berry’s phase)

**PHY 626 Quantum Mechanics II**
Potential Scattering: Asymptotic states, scattering amplitude, the integral equation of potential scattering, Born series, cross-sections, the Optical Theorem, partial waves, low energy resonances, analytic properties of the scattering amplitude.

Perturbation Theory: Stationary state perturbation theory, degenerate perturbation theory, time-dependent perturbation theory, first-order transitions, harmonic perturbations, second-order transitions.

Interaction of Radiation with Matter: Interaction Hamiltonian, absorption of light, spontaneous emission, the quantized radiation field, scattering of light, Raman scattering, the quantum vacuum.

Theory of Spin ½: Rotations in spin space, spin magnetic moment, spin resonance, the Pauli equation, relativistic theory, Lorentz transformation of spin, Dirac equation, Dirac hydrogen atom, hyperfine structure, the Lamb shift.

Path Integrals in Quantum Mechanics: The classical action, the quantum-mechanical amplitude, the sum over paths, the free particle propagator, particle in a magnetic field, action function of the classical electromagnetic field, the energy and momentum tensor, evaluation of path integrals, perturbation theory and path integrals, introduction to quantum electrodynamics.
Atoms - Molecules: Two-electron atoms, Hartree, Fermi-Thomas and Hartree-Fock approximations, spin-orbit interaction, Zeeman effect, the Born-Oppenheimer method, the hydrogen molecule.

PHY 634 Electromagnetism
Charges in fields, four-potential of a field, Lorentz force, electric and magnetic fields, gauge invariance, the electromagnetic field tensor, Lorentz transformation of the field, invariants of the field, the action of the electromagnetic field, the four-dimensional current vector, Maxwell equations, energy density and Poynting vector, constant fields, electrostatics and magnetostatics, electrostatic energy, dipole moments, magnetic moments, electromagnetic waves, characteristic vibrations of the field, Optics, diffraction, geometrical optics, the field of moving charges, the Lienard-Wiechert potentials, electromagnetic radiation, dipole radiation, radiation from a rapidly moving charge, spectral resolution of the radiation, scattering by free charges, electromagnetic field in continuous media.

PHY 641 Statistical Physics
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

Part 1: Experiments and Techniques in Nuclear Physics
Introduction to least squares method, elements of nuclear electronics and interaction of charged particles with matter (the TRIM code).
High-Resolution Spectroscopy of -Particles using a surface barrier silicon (Si) detector.
High-Resolution A-Spectroscopy using an intrinsic high-purity Ge(i) detector.

Part 2: Particle Physics Experiments
Study of Cosmic Rays:
The purpose of the graduate particle physics experiment is to study the soft component of cosmic radiation at sea level, which is mainly composed of muons. The study proceeds through the measurement of the cosmic ray flux and the muon decay and capture rates in a heavy material (lead). Students will familiarise themselves with some of the methodology and techniques widely used today in particle physics research (detectors, electronics for signal extraction, data acquisition and processing and presentation of the results).

Part 3: Experiments in Optoelectronics
Introduction: Introduction to optoelectronics - A brief introduction to optoelectronics. Laser systems – Introduction to various laser systems with emphasis on the ultrashort laser systems. Introduction to fundamental experimental setups in optoelectronics.
Time resolved studies using pulsed lasers: Pulsed lasers with nanosecond resolution, techniques of time resolved analysis, data acquisition system (LabView).
Ultrafast lasers: Self mode-locked lasers, the use of non-linear optical technique to measure pulselength from ultrashort lasers, pump-probe techniques.
Fiber optics and Fiber Bragg gratings: Fiber optics (introduction), photosensitivity in optical fibers, fabrication of fiber Bragg gratings, applications of fiber Bragg gratings.

Part 4: Photothermal and Photoacoustic Sciences and Experimental Techniques

Specialisation Courses

PHY 650 Quantum Field Theory I

PHY 651 Ultrashort Laser Pulse Phenomena
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
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

PHY 654 Ultrafast Spectroscopy of Semiconductors and Semiconductor Nanostructures

PHY 655 Lattice Gauge Theories

PHY 656 Modern Topics in Theoretical Condensed Matter Physics
Unitary Transformations in Condensed Matter Physics
- Bose systems: Bogolyubov transformations
- Fermi systems: Cooper pairs and BCS theory of Superconductivity
- Composite particles: Bose-Einstein condensation of Excitons

Electrons in a Magnetic Field
- Integer and Fractional Quantum Hall Effect
- Two-dimensional electron-hole systems and their hidden symmetries
- Wigner crystal and competitive phases

PHY 657 Quantum Many-Body Theory and Applications in Solid State Physics
- 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
- 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
- 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
- Wigner Crystal in 3- and 2-Dimensional Condensed Matter
- Competition with Laughlin Liquid and other Quantum Hall Effect States
- Paired Electronic States and the Passage to Exotic Superconductivity
- Bubble and Stripe Phases in Higher Landau Levels: Recent Experimental Discoveries

PHY 661 Advanced Topics in Particle Physics
- 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
- 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
- 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
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
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
- Symmetries: Definition, Physical 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, Crystallographic 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
– Roots and Weights: Dynkin diagrams, Classification of the 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 Supersymmetric Standard Model and to Supergravity
– Infinite dimensional algebras: Virasoro algebra, Kac-Moody algebra - Applications in Conformal Field Theory and in String Theory

Research Interests of the Academic Staff

• Constantia Alexandrou
  Professor

• George Archontis
  Associate Professor

• Constantinos Christofides
  Professor

• Grigorios Itskos
  Lecturer

• Konstantinos Moulopoulos
  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
  Associate Professor

• Haralampos 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.

• Nicolaos Toumbas
  Assistant 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.

• Haralabos Tsertos
  Professor

Contact details

Department Secretary
Panagiota Georgiou
Tel.: 22892820
Fax: 22892821
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http://www.ucy.ac.cy/phy
The Department of Education currently offers eight postgraduate programmes leading to Master and Doctoral degrees in the following areas:

- Educational Administration and Evaluation (Master and Doctoral)
- Curriculum Development and Instruction (Master and Doctoral)
- Pedagogical Sciences (Master)
- Mathematics Education (Master and Doctoral)
- Learning in Natural Sciences (Master and Doctoral)
- Didactics and Methodology of Mathematics (Master)
- Inclusive Education (Master)
- Language Pedagogy (Master)

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 appointed by the Chairperson of the Department. The Coordinator chairs a three-member committee, the members of which are also appointed by the Chairperson.

The postgraduate programmes are based on the ECTS system (European Credit Transfer and Accumulation System). The programmes require 90 ECTS for their completion. Students may choose one of the following options:

- **Option A (completion of 9 courses)**
  9 courses X 9 ECTS (81 ECTS) and 3 seminars X 3 ECTS (9 ECTS) = 90 ECTS

- **Option B (completion of 7 courses, 3 seminars and dissertation)**
  7 courses X 9 ECTS (63 ECTS), 3 seminars X 3 ECTS (9 ECTS) and dissertation (18 ECTS) = 90 ECTS

For the completion of their Doctoral Degree students are required to accumulate 240 ECTS.

Seminars

The 3 seminars include lectures which will focus on a specific topic of the discipline.

Application for Admission – Evaluation

For information on the application procedure and the evaluation of the candidates, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s 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 Graduate programme in Educational Administration has as its basic mission the following:

(1) to undertake research in the areas of organisation, administration and evaluation in education

(2) to prepare leadership personnel and researchers who understand the context within which educational organisations 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, organisational 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 organisation 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 90 ECTS which are distributed as follows:

• Option A
54 ECTS in specialization courses + 9 ECTS in common core courses + 18 ECTS for the master thesis + 9 ECTS from 3 seminars = TOTAL 90 ECTS

<table>
<thead>
<tr>
<th>Specialisation courses</th>
<th>63</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsory courses</td>
<td>27</td>
</tr>
<tr>
<td>EDU 620 Introduction to educational administration* (C,B)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 623 Observation and evaluation of teaching and personnel (CB)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 645 Educational policy (S,A)</td>
<td>9</td>
</tr>
</tbody>
</table>

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<tr>
<th>Elective courses</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Four courses from the following)</td>
<td></td>
</tr>
<tr>
<td>EDU 603 Comparative education (S,I)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 610 Evaluation of educational programmes (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 617 Educational government and the management of change</td>
<td>9</td>
</tr>
<tr>
<td>EDU 621 Human resource development (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 622 Organisation and administration of schools (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 624 Planning and decision making in education (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 625 Applications of new technology in educational administration (S,A)</td>
<td>9</td>
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<tr>
<td>EDU 627 Introduction to innovations in education (S,A)</td>
<td>9</td>
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<tr>
<td>EDU 628 Education and multicultural society (S,A)</td>
<td>9</td>
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<tr>
<td>EDU 629 Instructional leadership (S,A)</td>
<td>9</td>
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<tr>
<td>EDU 630 Financial aspects of education (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 631 School effectiveness and school improvement (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 632 Strategic planning and quality in education (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 634 Principles of organisation of in-service programmes (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 635 Organisational behaviour and leadership (S,A)</td>
<td>9</td>
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<tr>
<td>EDU 636 Practicum in educational administration (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 642 Basic principles of measurement and evaluation in education (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 648 Professional Development, Promotion and Compensation of Personnel in Education (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 649 Educational leadership in Europe (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 689 Independent study (S,S)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 690 Seminar: Specialized topics/Current trends (S,S)</td>
<td>9</td>
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<tr>
<td>EDU 695 Evaluation of schools' performance (S,S)</td>
<td>9</td>
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<tr>
<td>EDU 696 Models of educational effectiveness (S,S)</td>
<td>9</td>
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<tr>
<td>EDU 697 Designing comprehensive studies for evaluating school effectiveness (S,S)</td>
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</tr>
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</table>
### Common core courses  
9

#### Research  
9
(One of the following)
- EDU 681 Advanced research methods (S,A)  
- EDU 682 Qualitative research in education (S,A)  
- EDU 683 Educational statistics with statistical packages applications (S,A)  
- EDU 780 Using basic and advanced multilevel modelling in educational research  
- EDU 788 Advanced research methods  

#### Elective courses  
9
One postgraduate course from any programme or department upon permission of the student’s postgraduate advisor  

#### Seminars  
9
- EDU 731 Seminar in Educational Administration and Evaluation I 3  
- EDU 741 Seminar in Educational Administration and Evaluation II 3  
- EDU 761 Seminar in Educational Administration and Evaluation III 3  

**TOTAL ECTS**  
90

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**OPTION B**

7 courses X 9 ECTS (63 ECTS), 3 seminars X 3 ECTS and Master Thesis (18 ECTS) = **TOTAL 90 ECTS**

<table>
<thead>
<tr>
<th>Specialisation courses</th>
<th>54</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compulsory courses</strong></td>
<td>27</td>
</tr>
<tr>
<td>EDU 620 Introduction to educational administration* (C,B)</td>
<td>9</td>
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<tr>
<td>EDU 623 Observation and evaluation of teaching and personnel (C,B)</td>
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<tr>
<td>EDU 645 Educational policy (S,A)</td>
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<tr>
<th>Elective courses</th>
<th>27</th>
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<tbody>
<tr>
<td>(Three courses from the following)</td>
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<tr>
<td>EDU 603 Comparative education (S,I)</td>
<td>9</td>
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<tr>
<td>EDU 610 Evaluation of educational programmes (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 617 Educational Government and the Management of Change</td>
<td>9</td>
</tr>
<tr>
<td>EDU 621 Human resource development (S,A)</td>
<td>9</td>
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<tr>
<td>EDU 622 Organisation and administration of schools (S,A)</td>
<td>9</td>
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<tr>
<td>EDU 624 Planning and decision making in education (S,A)</td>
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<td>EDU 642 Basic principles of measurement and evaluation in education (S,A)</td>
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<td>EDU 648 Professional development, promotion and compensation of personnel in education (S,A)</td>
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<td>EDU 697 Designing comprehensive studies for evaluating school effectiveness (S,A)</td>
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**Dissertation**  
18  
| EDU 798D Master Thesis I (S,Sp) | |  
| EDU 799D Master Thesis II (S,Sp) | |

### Common core courses  
9

#### Research  
9
(One of the following)
- EDU 681 Advanced research methods (S,A)  
- EDU 682 Qualitative research in education (S,A)  
- EDU 683 Educational statistics with statistical packages applications (S,A)  
- EDU 780 Using basic and advanced multilevel modelling in educational research  
- EDU 788 Advanced research methods  

#### Seminars  
9
- EDU 731 Seminar in Educational Administration and Evaluation I 3  
- EDU 741 Seminar in Educational Administration and Evaluation II 3  
- EDU 761 Seminar in Educational Administration and Evaluation III 3  

**TOTAL ECTS**  
90

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* EDU 620 is prerequisite for all courses in Educational Leadership.
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 27 ECTS
• Success in a comprehensive examination
• Completion of a doctoral dissertation

The 27 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 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, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

General Topics for the Examination

(1) Organisational and administrative theory
• Organisation 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 organisations
• 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 organisations
• Evaluation and school improvement
• School effectiveness (theory practice)

(3) Planning and the management of change in organisations
• 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

Description of Courses
All courses are credited with 9 ECTS.

EDU 603 Comparative Education
Definition and object of comparative education. Presentation of the Cypriot and the Greek educational systems. Description of European models of organisation for education (such as the British, the German, and the French systems). Analysis of the American Educational System. Comparisons, similarities, differences, advantages, disadvantages, conclusions.

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
EDU 620 Introduction to Educational Administration

General introduction to concepts and theories necessary for the study of organisations. Topics included are: leadership, decision-making, organisational climate, communication, effectiveness and the management of change. The nature of organisational life and organisational 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 organisation. 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 Organisation 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 organisation and administration of schools.

EDU 623 Observation and Evaluation of Teaching and Personnel

Presentation and analysis of the logic of observing, analyzing 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 organisation.

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 organisational change and resistance to change in educational organisations.

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, organisational, 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 Organisation of In-Service Programmes

The concept of total quality in the development of in-service programmes. The goal-setting and experiential process of the

EDU 635 Organisational Behaviour and Leadership
Organisational 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 organisation. Organisational 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 Mouton, 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 organisational 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 Professional Development, Promotion and Compensation of Personnel in Education

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 organisations in Europe or for those from outside Europe who wish to gain an understanding of European approaches to the management and leadership of educational organisations. It will be of value to those who teach and lead in schools or colleges and to those who govern such organisations at the local, regional, national or international level or who work in non-governmental educational organisations. 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

EDU 682 Qualitative Research in Education
This course begins with an examination of the differences in philosophy between the quantitative and qualitative approach which reveals the basis upon which the methods of doing qualitative research are built. Various theoretical traditions and orientations within qualitative research such as ethnography, phenomenology, ethnomethodology and symbolic interactionism are examined. Issues concerning research design in qualitative research are discussed and the "emergent research design" model is presented. The logic and power of purposeful sampling is also discussed and various strategies for selecting information-rich cases are presented. The next component of the course is focused upon the major methods of data collection used in qualitative research: observation, in-depth interviewing, and documentary analysis. Then, several techniques for analysing qualitative data are examined, and special emphasis is given to the "constant comparative method." Moreover, computer programmes that could be used for analysing qualitative data are examined and special emphasis is given to the use of NUDIST. Finally, techniques for enhancing the quality and credibility of qualitative analysis are examined and ways for communicating the outcomes of qualitative research are presented.

EDU 683 Educational Statistics with Statistical Packages Applications (SPSS)
The course focuses on two main units: The first unit includes fundamental research concepts such as the basic terms used in statistics and research, the stages in conducting a research project (investigation of the problem, research process, data analysis and conclusions), the types of research (experimentation, correlation research, descriptive research and historical analysis)
and the five chapters of a research report (the problem definition, literature review, methodology, results, conclusions).

The second unit includes commands from the SPSS package for the preparation of statistical data for analysis such as recode, compute, select if, get file, import file and statistical techniques for the analysis of data. Specifically, concepts relevant to descriptive statistics and deductive statistics are covered. With regard to descriptive statistics, the following are discussed: t-test, correlation, ANOVA, ANCOVA, multiple comparison procedures, regression analysis, partial correlation, factor analysis, cluster analysis, quick cluster, multidimensional scaling and discriminant analysis.

**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 Seminar: 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**

Maria Eliophotou - Menon
Associate Professor
Tel.: 22892944
e-mail: melmen@ucy.ac.cy

Leonidas Kyriakides
Associate Professor
Tel.: 22892947
e-mail: kyriakid@ucy.ac.cy
The objectives of the postgraduate programme in Curriculum Development and Instruction are the following:

1. Research in curriculum planning, curriculum development and curriculum evaluation, instructional analysis and evaluation, teacher education, development and evaluation.

2. Promotion and development of curriculum and teaching theories, as well as the philosophical, sociological and epistemological principles and discourse on curriculum studies.

3. Promotion and development of the collaboration with European programmes and with universities and research centres all over the world on curriculum studies.

4. Upgrading studies, knowledge and research on curriculum issues, teaching and learning, and teacher development.

5. Empowerment and cultivation of leadership in the areas of curriculum development and evaluation, curriculum and instructional discourse, and teacher development and evaluation.

6. Educational leadership services in Cyprus, and the European Union, as well as in the broader international scientific and educational society.

In the context of the above objectives students have the opportunity to develop their own individual programme of studies on the basis of their particular needs and interests.

**Structure of the Master Programme**

The programme consists of 90 ECTS which are distributed as follows:

- **Option A**

  63 ECTS in specialization courses, 9 ECTS in common core courses, 9 ECTS from the free elective courses and 9 ECTS from 3 seminars. With permission of the student’s postgraduate advisor, one or two specialization courses, common core courses or free elective courses can be replaced with courses in other postgraduate programmes of the University of Cyprus.

- **Option B**

  54 ECTS in specialization courses, 9 ECTS in common core courses, 18 ECTS for the dissertation and 9 ECTS from 3 seminars.

**OPTION A**

9 courses X 9 ECTS + 3 seminars X 3 ECTS = TOTAL 90 ECTS

<table>
<thead>
<tr>
<th>Specialisation courses</th>
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<td>EDU 612 Models of curriculum evaluation (C,B)</td>
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<td>EDU 598 Postcolonial theory and the curriculum</td>
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<tr>
<td>EDU 599 Gender theories and the politics of the curriculum</td>
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<td>EDU 603 Comparative education (S,A)</td>
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<td>EDU 604 Curriculum leadership (S,A)</td>
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<td>EDU 605 Postmodernity and education: Theory and praxis (S,A)</td>
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<td>EDU 606 Educational policy and curriculum development (S,A)</td>
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### Department of Education

**EDU 699 Conflict and collaboration – critical analysis (S,Sp)** 9
**EDU 781 Classroom discourse analysis and quality of teaching (S,Sp)** 9

**Common core course** 9

**Research**
- **EDU 681 Advanced research methods (S,S)** 9
- **EDU 682 Qualitative research in education (S,S)** 9
- **EDU 683 Educational statistics with statistical packages applications (S,S)** 9

**Elective courses** 9

(Upon permission of the student’s postgraduate advisor)
- **EDU 601 Philosophical aspects of education (S,I)** 9
- **EDU 618 Sociological aspects of education (S,I)** 9
- **PSY 610 Psychological aspects of education (S,I)** 9

With permission of the student’s postgraduate advisor, one or two specialization courses, common core courses or free elective courses can be replaced with courses in other postgraduate programmes of the University of Cyprus.

**Seminars** 9
- **EDU 730 Seminar in Curriculum and Instruction I** 3
- **EDU 740 Seminar in Curriculum and Instruction II** 3
- **EDU 760 Seminar in Curriculum and Instruction III** 3

**TOTAL ECTS** 90

* The course EDU 640 is prerequisite for all Courses in Educational Curriculum Development

**OPTION B**

7 courses X 9 ECTS (63 ECTS) + 3 seminars X 3 ECTS (9 ECTS) + Dissertation (18 ECTS) = TOTAL 90 ECTS

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<td>EDU 642 Basic principles of measurement evaluation in education (S,A)</td>
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<tr>
<td></td>
<td>EDU 643 Application of new technology in curriculum development (S,A)</td>
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<td>EDU 644 Development and evaluation of educational texts and materials (S,A)</td>
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<td>EDU 654 History of education (S,A)</td>
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<td>EDU 690 Seminar: Specialized topics/Current trends (S,Sp)</td>
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<td>EDU 691 Seminar in curriculum development (S,Sp)</td>
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<td>EDU 699 Conflict and collaboration – critical analysis (S,Sp)</td>
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<td></td>
<td>EDU 781 Classroom discourse analysis and quality of teaching (S,Sp)</td>
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<td>EDU 799C Dissertation II (S,Sp)</td>
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</table>

**Common core courses** 9

**Research**
- EDU 681 Advanced research methods (S,A) 9
- EDU 682 Qualitative research in education (S,A) 9
- EDU 683 Educational statistics with statistical packages applications (S,A) 9

**Seminars** 9
- EDU 730 Seminar in Curriculum and Instruction I 3
- EDU 740 Seminar in Curriculum and Instruction II 3
- EDU 760 Seminar in Curriculum and Instruction III 3

**TOTAL ECTS** 90

* The course EDU 640 is prerequisite for all Courses in Educational Curriculum Development
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, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s 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

Description of Courses
All courses are credited with 9 ECTS.
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 intertwinings 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 Aspects of 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
See course description above.

EDU 604 Curriculum Leadership
Theories and research on the construction of the concept of curriculum leadership. The School Reform Movement and the meaning of change in schools. Connecting action research to genuine teacher development. The instrumental-bureaucratic and the critical-developmental leadership paradigm in education. Critical pedagogy and the concept of curriculum leadership. Teacher development in context: meta-modernity, phenomenography and conceptual change.

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 Educational 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 Social Discourse on Curriculum Development
Critical approach to social theories on the construction and the results of school curriculum. The rhetoric of school reform and its effects on teacher development: Issues of power, expertise and commitment. Teaching as a profession of values. Controlling forms of curriculum. The hidden curriculum, deskilling teachers and the logic of technical control through curriculum forms.

EDU 608 Critical Discourses on Teacher Development

EDU 611 Curriculum Theory
Theory and critical approach towards the curriculum aims and objectives, the context/subject matter forms of knowledge and experience, methods as the mode of curriculum delivery, assessment and evaluation. Investigation and discourse of functionalism, Foucaultian criticism, critical pedagogy and radical paradigms. Historical development of curriculum, social, political, epistemological and psychological theory and practice. Forms of curricula according to modern and postmodern paradigms.

EDU 612 Models of Curriculum Evaluation
The aim of this course is to enable students to understand the increasing importance of evaluation on curriculum development and the theoretical principles underpinning a range of evaluation models. The models, techniques, and procedures of curriculum evaluation; the purposes of evaluation in curriculum development; the key questions to be addressed in writing an evaluation strategy; cultural and ethical issues in evaluation; the evaluation report; how to use the results of evaluation to inform curriculum design.

EDU 613 Specialised Topics and Contemporary Trends
New topics and trends in Curriculum development and evaluation, teaching and learning, development of teachers, schools and education.
EDU 614 Informal Curriculum and Mass Media
Research on the role of mass media for the production of the informal curricula; 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 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 626 Programme and School Evaluation
Programme evaluation as an institution and as a process. Critical presentation and analysis of evaluation models such as Stufflebeam, Popham, Borich, Provus, and Scriven models. Formative and summative evaluation. Specific mention of particular programmes at the macro and micro levels. Ways of analyzing and evaluating school improvement and the evaluation of schools as the main unit of instruction and curriculum development.

EDU 627 Introduction to Innovations in Education
See course description above.

EDU 631 School Effectiveness and School Improvement
See course description above.

EDU 633 European Dimension in Education

EDU 634 Principles of Organisation of In-Service Programmes
See course description above.

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 above.

EDU 654 History of Education
Education and curricula in the pre-industrial, the industrial and the technological era; pre-modern, modern, late modern and post-modern assumptions and interpretations; interrelation of social, economic, political and ideological considerations; globalisation and education; the Lisbon strategy and the European Union. The role of the history of education today.

EDU 681 Advanced Research Methods
See course description above.

EDU 682 Qualitative Research in Education
See course description above.

EDU 683 Educational Statistics with Statistical Packages Applications (SPSS)
See course description above.

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 Seminar: 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 693 Advanced Methods of Teaching and Learning

EDU 699 Conflict and Collaboration: Critical Analysis
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.

EDU 781 Classroom Discourse Analysis and Quality of Teaching
Multiple Perspective Analysis of Classroom Discourse; Ethnography and Language in Educational Settings; Sociosemiotics and Education; Power and control in classroom discourse analysis; Inequality and classroom discourse; Learning and discourse analysis.
Contact details
Programme Coordinator
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Professor
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PEDAGOGICAL SCIENCES
For the programme details, please contact the Department’s secretariat or visit the website www.ucy.ac.cy/edu-en

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 analyze 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 Programme
Students must complete courses totalling 90 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 (72 ECTS), one course from the Educational Research Courses (9 ECTS) and 3 seminars (9 ECTS).

• Option B (completion of 7 courses, 3 seminars and dissertation)
The student selects six courses from the Specialization Courses (54 ECTS), one course from the Educational Research Courses (9 ECTS), three seminars (9 ECTS) and completes a dissertation (18 ECTS).

OPTION A
9 Specialization Courses (8 X 9) + Educational Research (1 X 9) + 3 Seminars (3 X 3 ECTS) = TOTAL 90 ECTS

<table>
<thead>
<tr>
<th>Specialisation courses</th>
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<tbody>
<tr>
<td>Compulsory courses</td>
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<tr>
<td>EDU 673 Mathematics curriculum: development and evaluation (C,I)</td>
<td>9</td>
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<tr>
<td>EDU 677 Theories of representation and educational teaching (C,I)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 678 Affect and mathematics learning (C,I)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 680 Theories of mathematical understanding (C,B)</td>
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Elective courses (4 courses) 36
<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>EDU 671 Cognitive analysis of mathematics learning (S,B)</td>
<td>9</td>
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<tr>
<td>EDU 672 Topics in the philosophy and history of mathematics (S,B)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 674 Mathematical problem solving (S,I)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 675 Recent trends in mathematics education (S,B)</td>
<td>9</td>
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<tr>
<td>EDU 676 Contemporary technology in mathematics teaching (C,B)</td>
<td>9</td>
</tr>
<tr>
<td>EDU 679 Space, visualization and reasoning methods (C,I)</td>
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Educational research courses (1 course) 9
<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>EDU 681 Advanced educational research methods (S,A)</td>
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<tr>
<td>EDU 682 Qualitative research in education (S,A)</td>
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<tr>
<td>EDU 683 Educational statistics with statistical packages applications (S,A)</td>
<td>9</td>
</tr>
<tr>
<td>PSY 788 Advanced research methods (M,S)</td>
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Seminars 9
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<tr>
<td>EDU 732 Seminar in Mathematics Education I</td>
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<tr>
<td>EDU 742 Seminar in Mathematics Education II</td>
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</tr>
<tr>
<td>EDU 762 Seminar in Mathematics Education III</td>
<td>3</td>
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</tbody>
</table>

TOTAL ECTS 90

C=Common Core, S=Support, M=Minor, B=Basic Level, I=Intermediate Level, A=Advanced Level, Sp=Specialized Level
OPTION B
7 Specialization Courses (6 X 9) + Educational Research (1 X 9) + Dissertation (18 ECTS) + 3 Seminars (9 ECTS) = TOTAL 90 ECTS

<table>
<thead>
<tr>
<th>ECTS</th>
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<tbody>
<tr>
<td>54</td>
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<td>EDU 673 Mathematics curriculum: development and evaluation (C,I) 9</td>
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<td>EDU 677 Theories of representation and educational teaching (C,I) 9</td>
</tr>
<tr>
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<td>EDU 678 Affect and mathematics learning (C,I) 9</td>
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<tr>
<td></td>
<td>EDU 680 Theories of mathematical understanding (C,I) 9</td>
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<td>Elective courses (2 courses) 18</td>
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<td></td>
<td>EDU 671 Cognitive analysis of mathematics learning (S,B) 9</td>
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<td>EDU 672 Topics in the philosophy and history of mathematics (S,B) 9</td>
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<tr>
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<td>EDU 674 Mathematical problem solving (S,I) 9</td>
</tr>
<tr>
<td></td>
<td>EDU 675 Recent trends in mathematics education (S,B) 9</td>
</tr>
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<td></td>
<td>EDU 676 Contemporary technology in mathematics teaching (C,B) 9</td>
</tr>
<tr>
<td></td>
<td>EDU 679 Space, visualization and reasoning methods (C,I) 9</td>
</tr>
<tr>
<td></td>
<td>Educational research courses (1 course) 9</td>
</tr>
<tr>
<td></td>
<td>EDU 681 Advanced educational research methods (S,A) 9</td>
</tr>
<tr>
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<td>EDU 682 Qualitative research in education (S,A) 9</td>
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<td>EDU 683 Educational statistics with statistical packages (S,A) 9</td>
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<td>PSY 788 Advanced research methods (M,S) 9</td>
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<td>EDU 799M Dissertation (S,Sp) II</td>
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<td>EDU 762 Seminar in Mathematics Education III 3</td>
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<td>TOTAL ECTS 90</td>
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</table>

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.

Description of Courses
All courses are credited with 9 ECTS.

**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 organisation 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 analyses 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
This course pertains to other graduate programmes and is described above.

EDU 683 Educational Statistics with Statistical Package Applications
This course pertains to other graduate programmes and is described above.

Contact details
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Demetra Pitta-Pantazi
Associate Professor
Tel.: 22892946
e-mail: dpitta@ucy.ac.cy
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 Programme
For the Master 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 90 ECTS which are distributed as follows:

• 15 or 16.5 ECTS in Core Courses
• 45 ECTS in Specialization Courses
• 21 ECTS in Dissertation
• 9 ECTS in Seminars

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<tr>
<td>Cognitive psychology</td>
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<td>One of the following courses:</td>
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<tr>
<td>PSY 605 Psychometrics</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 606 Cognitive development</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 610 Psychology of Education</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 616 Mental Representation</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 620 Learning and Cognitive</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 668 Cognitive and teaching approaches (Theories of Knowledge acquisition and the process of learning)</td>
<td>7.5</td>
</tr>
</tbody>
</table>

| Methodology of educational research | 9 or 7.5 |
| One of the following courses: |
| EDU 681 Advanced Research Methods | 9 |
| EDU 682 Qualitative research in education | 9 |
| EDU 683 Educational Statistics with Statistical Packages Application | 9 |
| EDU 780 Using basic and advanced multilevel modelign in educational research | 9 |
| PSY 788 Advanced Research Methods | 7.5 |
**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.

<table>
<thead>
<tr>
<th>Compulsory courses</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 751 Design of research proposals</td>
<td>9</td>
</tr>
<tr>
<td>EDU 752 Analysis and implementation of research evidence</td>
<td>9</td>
</tr>
<tr>
<td>EDU 753 Models of teaching and didactical recontextualization of the content of natural sciences</td>
<td>9</td>
</tr>
<tr>
<td>Any two courses from the list of elective courses of the Master programme</td>
<td>18</td>
</tr>
</tbody>
</table>

For the completion of the Programme, students must perform successfully in a comprehensive examination. In addition, students must complete a Ph.D. dissertation, present its results in an open seminar and defend it successfully before a five-member examination committee.

**Description of Courses**

All courses are credited with 9 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 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 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**


**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**


**EDU 682 Qualitative Research in Education**

This is a core course for other graduate programmes and is described above.

**EDU 683 Educational Statistics with Applications of Statistical Packages**

This is a core course for other graduate programmes and is described above.

**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**


**Contact details**

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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 in special summer sessions at the University of Athens. Students are obliged to cover the cost of their travel to Greece and attendance at the summer schools and seminars.

A limited number (15) of Cypriot students will be accepted to the programme. Two–thirds of the programme will be offered in Cyprus by academic staff from the Department of Mathematics and Statistics and the Department of Education. The remaining credits will be fulfilled in Athens, in the summer session.

The duration of the programme is two years and the tuition is CYP 1500 per year (approx. 2,565 euro). The degree will be granted by the University of Cyprus.

Structure of the Programme
Nine (9) courses and three (3) seminars are required for the completion of the programme:

- six courses from the area of Didactics and Methodology of Mathematics
- one Statistics course
- two courses from the area of History – Philosophy
- three seminars

Structure of the Programme
The structure of the programme and courses is as follows:

OPTION A
9 courses X 9 ECTS + 3 seminars X 3 ECTS = TOTAL 90 ECTS

<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>Educational Guidance of Mathematics</td>
<td>54</td>
</tr>
<tr>
<td>Education and Development of Mathematics Evaluation</td>
<td>9</td>
</tr>
<tr>
<td>Didactics of Mathematics Theory</td>
<td>9</td>
</tr>
<tr>
<td>Mathematics Teaching through Problem Solving</td>
<td>9</td>
</tr>
<tr>
<td>Teaching Algebra and Geometry</td>
<td>9</td>
</tr>
<tr>
<td>Teaching Probability and Statistics</td>
<td>9</td>
</tr>
<tr>
<td>The Integration of New Technology in Teaching Mathematics</td>
<td>9</td>
</tr>
<tr>
<td>Mathematics Teaching and History of Mathematics</td>
<td>9</td>
</tr>
<tr>
<td>Mathematics Modelling</td>
<td>9</td>
</tr>
<tr>
<td>Methods of Research in Teaching Mathematics</td>
<td>9</td>
</tr>
<tr>
<td>Special Issues in Teaching Mathematics</td>
<td>9</td>
</tr>
<tr>
<td>History – Philosophy</td>
<td>18</td>
</tr>
<tr>
<td>Educational Philosophy of Mathematics</td>
<td>9</td>
</tr>
<tr>
<td>Plato and Mathematics</td>
<td>9</td>
</tr>
<tr>
<td>Number Theory</td>
<td>9</td>
</tr>
<tr>
<td>Modern Methods for Teaching High-School Mathematics</td>
<td>9</td>
</tr>
<tr>
<td>Mathematics with Computer</td>
<td>9</td>
</tr>
<tr>
<td>Statistics</td>
<td>9</td>
</tr>
<tr>
<td>Topics in Probability-Statistics</td>
<td>9</td>
</tr>
<tr>
<td>Seminars</td>
<td>9</td>
</tr>
<tr>
<td>Seminar of Didactics of Methodology of Mathematics I</td>
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</tr>
<tr>
<td>Seminar of Didactics of Methodology of Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>Seminar of Didactics of Methodology of Mathematics III</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL ECTS 90
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Programme Coordinators
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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:

a. Enhance the undergraduate courses directed to this new area in education in Cyprus
b. Provide research opportunities in this very important and sensitive education area where very little has been done so far
c. 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
d. 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:

a. carry out research in the area of inclusive education
b. function as points of reference in mainstream schools (primary and secondary) for the successful implementation of integration
c. 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
d. produce educational material that targets differentiation of the curriculum in order to support difference and disability in the classroom and the school
e. support the educational process that is offered in special units through contribution to the curriculum with production of educational material
f. function as catalysts for integration in the general educational system of Cyprus
g. continue onto graduate studies and research in the area of inclusive education
Structure of the Programme (90 ECTS)

**OPTION A:**
7 taught courses x 9 ECTS (63 ECTS) + 3 seminars x 3 ECTS (9 ECTS) + Master thesis = 90 ECTS in total

**OPTION B:**
9 taught courses x 9 ECTS (81 ECTS) + 3 seminars x 3 ECTS (9 ECTS) = 90 ECTS in total

<table>
<thead>
<tr>
<th>Compulsory courses</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>EDU 542 Special and Inclusive Education in Cyprus</td>
<td>9</td>
</tr>
<tr>
<td>EDU 682 Qualitative Research in Education</td>
<td>9</td>
</tr>
<tr>
<td>or EDU 681 Advanced Educational Research Methods</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optional courses</th>
<th>9 or 27</th>
</tr>
</thead>
<tbody>
<tr>
<td>One (Option A) or three (Option B) of the following:</td>
<td></td>
</tr>
<tr>
<td>EDU 601 Philosophical Aspects of Education</td>
<td>9</td>
</tr>
<tr>
<td>EDU 603 Comparative Education</td>
<td>9</td>
</tr>
<tr>
<td>PSY 610 Psychological Aspects of Education</td>
<td>9</td>
</tr>
<tr>
<td>EDU 618 Sociological Aspects of Education</td>
<td>9</td>
</tr>
<tr>
<td>EDU 637 The Theory and Politics of Multicultural Education</td>
<td>9</td>
</tr>
<tr>
<td>EDU 638 Bilingualism in Education</td>
<td>9</td>
</tr>
<tr>
<td>EDU 641 Education and Gender</td>
<td>9</td>
</tr>
<tr>
<td>EDU 645 Educational Policy</td>
<td>9</td>
</tr>
<tr>
<td>EDU 646 Globalisation, Cosmopolitanism and Education</td>
<td>9</td>
</tr>
<tr>
<td>EDU 647 Christian Humanocentrism and the Contemporary World</td>
<td>9</td>
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<table>
<thead>
<tr>
<th>Specialization courses</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four of the following:</td>
<td></td>
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<tr>
<td>EDU 541 The Pedagogy of Inclusion</td>
<td>9</td>
</tr>
<tr>
<td>EDU 639 Inclusive Education: the New Face of Special Education?</td>
<td>9</td>
</tr>
<tr>
<td>EDU 543 Home-School Relations on the Edge of Difference</td>
<td>9</td>
</tr>
<tr>
<td>EDU 544 Inclusive Education and Technology</td>
<td>9</td>
</tr>
<tr>
<td>EDU 545 Disability in School and Society</td>
<td>9</td>
</tr>
<tr>
<td>EDU 546 Differentiation in the Inclusive Classroom</td>
<td>9</td>
</tr>
<tr>
<td>EDU 547 Evaluation in the Inclusive Classroom</td>
<td>9</td>
</tr>
<tr>
<td>EDU 548 Current Trends in Inclusive Education</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Seminars</th>
<th>9</th>
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<tbody>
<tr>
<td>EDU 737 Aspects of Inclusive Education I</td>
<td>3</td>
</tr>
<tr>
<td>EDU 747 Aspects of Inclusive Education II</td>
<td>3</td>
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<tr>
<td>EDU 767 Aspects of Inclusive Education III</td>
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<table>
<thead>
<tr>
<th>Master thesis</th>
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<tbody>
<tr>
<td>EDU 798N Master Thesis I</td>
<td>9</td>
</tr>
<tr>
<td>EDU 799N Master Thesis II</td>
<td>9</td>
</tr>
</tbody>
</table>

Total ECTS 90

Course Descriptions

All courses are credited with 9 ECTS.

**EPA 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.

**EPA 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.

**EPA 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.

**EPA 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.

**EPA 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.

**EPA 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.

**EPA 547 Evaluation in the Inclusive Classroom**
EPA 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.

Evaluation and work hours per course/9 ECTS

Evaluation:
1. Classroom Presentation: 30% of final grade
2. Research Project: 60% of final grade
3. Seminars: 10% of final grade

Distribution of work hours
1. Course attendance: 40 hours
2. Literature review and presentation for participation in class and seminars: 50 hours
3. Literature review and preparation of presentation: 50 hours+

Total: 290 hours+

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Lecturer
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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 90 ECTS. Students may take one of the following options:

OPTION A:
9 courses x 9 ECTS + 3 seminars x 3 ECTS = Total 90 ECTS

<table>
<thead>
<tr>
<th>CYCLE A</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>One course in education research (compulsory)</td>
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<table>
<thead>
<tr>
<th>CYCLE B</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two compulsory courses and four limited-choice electives</td>
<td>54</td>
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</table>

<table>
<thead>
<tr>
<th>CYCLE C</th>
<th>ECTS</th>
</tr>
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<tbody>
<tr>
<td>Two free elective courses from other postgraduate programmes in the department (one can be an independent study course)</td>
<td>18</td>
</tr>
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<table>
<thead>
<tr>
<th>CYCLE D</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>Three postgraduate seminars</td>
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<td>Total</td>
<td>90</td>
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</tbody>
</table>

OPTION B:
7 courses x 9 ECTS + 3 seminars x 3 ECTS + Master Thesis (18 ECTS) = Total 90 ECTS

<table>
<thead>
<tr>
<th>CYCLE A</th>
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<tr>
<td>One course in education research (compulsory)</td>
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<table>
<thead>
<tr>
<th>CYCLE B</th>
<th>ECTS</th>
</tr>
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<tbody>
<tr>
<td>Two compulsory courses and four limited-choice electives</td>
<td>54</td>
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<table>
<thead>
<tr>
<th>CYCLE C</th>
<th>ECTS</th>
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</thead>
<tbody>
<tr>
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<table>
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<tr>
<th>MASTER THESIS</th>
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Programme Details
OPTION A

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<tr>
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<tr>
<td>EDU 681 Advanced Methods in Education Research</td>
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<tr>
<td>EDU 682 Qualitative Research in Education</td>
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<tr>
<td>EDU 683 Education Statistics</td>
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### CYCLE B

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Compulsory courses (2)</strong></td>
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<tr>
<td>EDU 521 First Language Acquisition</td>
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<tr>
<td>EDU 522 Contemporary Approaches to Literacy Development</td>
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</tr>
<tr>
<td><strong>Limited-choice courses (4)</strong></td>
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</tr>
<tr>
<td>EDU 523 The Development of Semantic, Pragmatic and Communicative Competence</td>
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</tr>
<tr>
<td>EDU 524 Text Linguistics-Multiliteracies</td>
<td>9</td>
</tr>
<tr>
<td>EDU 525 Teaching the Structure of Language</td>
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<tr>
<td>EDU 526 Teaching Literature</td>
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</tr>
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<td>EDU 527 Capitalising on Language Variation in Education</td>
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<td>EDU 528 Second Language Acquisition</td>
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<tr>
<td>EDU 529 Monolingual, Bilingual, Multilingual Education: Attitudes, Trends and Perspectives</td>
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### CYCLE C

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<thead>
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<tr>
<td>Two free elective courses from other postgraduate programmes in the department (one can be an independent study course)</td>
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<tr>
<td><strong>Courses suggested:</strong></td>
<td></td>
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<tr>
<td>EDU 601 Philosophical Dimensions of Education</td>
<td></td>
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<tr>
<td>EDU 603 Comparative Education</td>
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<tr>
<td>EDU 605 Postmodernity and Education</td>
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<tr>
<td>EDU 611 Theory of Curriculum Development</td>
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<tr>
<td>EDU 618 Sociological Dimensions of Education</td>
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<tr>
<td>EDU 637 Theory and Practice of Intercultural Education</td>
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<tr>
<td>EDU 639 Inclusive Education: The New Face of Special Education</td>
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<tr>
<td>EDU 641 Gender and Education</td>
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<tr>
<td>EDU 646 Globalisation, Cosmopolitanism and Education</td>
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<tr>
<td>EDU 689C Independent Study</td>
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<tr>
<td>EDU 781 Discourse Analysis of Student-Teacher Interaction</td>
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</tbody>
</table>

### CYCLE D

<table>
<thead>
<tr>
<th>Three postgraduate seminars</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seminars suggested:</strong></td>
<td></td>
</tr>
<tr>
<td>EDU 735 Language Pedagogy I</td>
<td>3</td>
</tr>
<tr>
<td>EDU 745 Language Pedagogy II</td>
<td>3</td>
</tr>
<tr>
<td>EDU 765 Language Pedagogy III</td>
<td>3</td>
</tr>
</tbody>
</table>

### OPTION B

<table>
<thead>
<tr>
<th>ECTS</th>
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<tbody>
<tr>
<td><strong>CYCLE A</strong></td>
</tr>
<tr>
<td>Education research</td>
</tr>
<tr>
<td>Students must choose one of the following:</td>
</tr>
<tr>
<td>EDU 681 Advanced Methods in Education Research</td>
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<tr>
<td>EDU 682 Qualitative Research in Education</td>
</tr>
<tr>
<td>EDU 683 Education Statistics</td>
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<tr>
<th>ECTS</th>
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<tbody>
<tr>
<td><strong>CYCLE B</strong></td>
</tr>
<tr>
<td>Two compulsory courses (18 ECTS) and four limited-choice electives (36 ECTS)</td>
</tr>
<tr>
<td><strong>Compulsory courses (2)</strong></td>
</tr>
<tr>
<td>EDU 521 First Language Acquisition</td>
</tr>
<tr>
<td>EDU 522 Contemporary Approaches to Literacy Development</td>
</tr>
<tr>
<td><strong>Limited-choice courses (4)</strong></td>
</tr>
<tr>
<td>EDU 523 The Development of Semantic, Pragmatic and Communicative Competence</td>
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<tr>
<td>EDU 524 Text Linguistics-Multiliteracies</td>
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<tr>
<td>EDU 525 Teaching the Structure of Language</td>
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<tr>
<td>EDU 526 Teaching Literature</td>
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<tr>
<td>EDU 527 Capitalising on Language Variation in Education</td>
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<tr>
<td>EDU 528 Second Language Acquisition</td>
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<tr>
<th>ECTS</th>
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<tr>
<td><strong>CYCLE C</strong></td>
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<tr>
<td>Three postgraduate seminars</td>
</tr>
<tr>
<td><strong>Seminars suggested:</strong></td>
</tr>
<tr>
<td>EDU 735 Language Pedagogy I</td>
</tr>
<tr>
<td>EDU 745 Language Pedagogy II</td>
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<tr>
<td>EDU 765 Language Pedagogy III</td>
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<tr>
<th>ECTS</th>
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<tbody>
<tr>
<td><strong>MASTER THESIS</strong> (18 ECTS)</td>
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<tr>
<td>EDU 798C M.A. Dissertation I</td>
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<tr>
<td>EDU 799C M.A. Dissertation II</td>
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</tbody>
</table>

**Course descriptions for Cycle B**

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 9 ECTS.

**EDU 521 Introduction to First Language Acquisition**
This course examines basic aspects of child language, with special emphasis on stages of linguistic development in the preschool years and on mainstream approaches to child language development such as behavioural and cognitive approaches, nativism, connectionism and interactionism. The focus is on the acquisition of Greek L1, but comparisons with other languages are also attempted as required. The course examines the developmental trajectory of phonetics/phonology, morphology and syntax on the basis of models such as Lexical and Government Phonology, Optimality Theory and the Principles and Parameters framework.

**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 discusses in detail the concept and principles of textuality (cohesion, coherence, intentionality, acceptability, informativity, situationality and intertextuality), with special 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. The course further examines dominant approaches to genre/critical literacy such as New Rhetoric, the Sidney School and the New London Group. The new dimensions of textuality and literacy introduced by communication technologies are discussed as alternative literacy resources, with a view to redefining traditional literacies and determining the nature of changes to language pedagogy so that it can address the needs of a multiliterate society.

**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.

**Evaluation and work hours per course/9 ECTS**

**Evaluation:**
1. Classroom Presentation: 40% of the final mark
2. Research Project: 60% of the final mark

**Work hours:**
1. Lecture Attendance: 40 hours
2. Studying literature and preparation for participating: 50 hours
3. In the lectures (studying literature and preparation for presentation): 50 hours
4. Research project: 150+ hours

**Total hours: 290+**

**Contact details**

**Programme Coordinator**
Elena Ioannidou
Lecturer
Tel.: 22892987
e-mail: ioannidou.elena@ucy.ac.cy

**Research Interests of the Academic Staff**

- **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**
  Lecturer
  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**
  Assistant 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**
  Lecturer
  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**
  Associate Professor

- **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
Assistant 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
Lecturer
Language pedagogy, language education policy, bidialectalism and education, developing multicompetence through language teaching, interrelations of language and identity, multilingualism and multiculturalism in education.

• Konstantinos Korfiatis
Assistant 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 Koutselini
Professor
Curriculum development and evaluation, teaching methodology, school textbooks, development of metacognition.

• Leonidas Kyriakides
Assistant 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.

• Maria Eliophotou-Menon
Associate 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 organisation and management.

• Demetra Pitta-Pantazi
Associate Professor
Development of mathematical thinking, representations in mathematics, symbols as processes and concepts, intuitive rules in mathematics.

• Marianna Papastephanou
Associate 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.

• Helen Phtiaka
Associate Professor
Educational legislation, policy and practice, the notion of difference in education, disability, inclusive education, globalisation.

• Simoni Symeonidou
Lecturer

• Charoula Angeli-Valanides
Assistant 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.

• Nicos Valanides
Associate Professor
Teacher training, methodology of teaching and curricula for science education, development of logical and scientific thinking, and development of scientific attitudes and appropriate educational interventions and environments.

• Zacharias Zacharia
Assistant 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
Departments Secretariat
Christina Georgiou-Michaelides
Tel.: 22892941
Fax: 22894488
e-mail: georgiou.christina@ucy.ac.cy

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Tel.: 22892942
Fax: 22894488
e-mail: costa.anastasia@ucy.ac.cy

Penelope Kitsiou
Tel.: 22892940
Fax: 22894487
e-mail: kitsiou.popi@ucy.ac.cy
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. The Department has been offering courses within the University of Cyprus since fall 2006. The undergraduate degree programme in law began in the academic year 2008-2009. The first postgraduate programmes are subject to approval by the relevant University bodies.

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
  Lecturer
  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
  Assistant 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**  
  *Lecturer*  
  His research interests focus on comparative legal methodology and on the organising premise of constitutional coexistence at the supranational level. Therefore, the emphasis is on Public law and Constitutional law at the national level and on the impact that the constitutional frameworks at the post-national level have on municipal legal orders. The European Union as a legal structure represents the working framework for analysis, with the focal point of analysis being the dynamics of the relationships between different judicial poles. In addition, the range of research interest includes the idea of judicial lawmaking in the process of constitutional jurisprudence and the guiding factors that formulate judicial reasoning.

- **Charalambos Papacharalambous**  
  *Assistant Professor*  
  Criminal Law

- **Tatiana-Eleni Synodinou**  
  *Assistant Professor*  

- **Christos Tsaitouridis**  
  *Lecturer*  
  Philosophy of Law, Public Law, Environmental Law.

Contact details

**Coordinator of Postgraduate Studies**
Nikitas Hatzimihail  
Tel.: 22892923  
e-mail: nhatzimi@ucy.ac.cy

**Department Secretary**
Tel.: 22892920  
Fax: 22894438  
e-mail: law.dept@ucy.ac.cy

http://www.ucy.ac.cy/law
Psychology

The Psychology Department currently offers postgraduate programmes leading to the Master degree in the areas of:

1) Applied Programme in School Psychology

2) Theoretical Programme in Cognitive and Educational Psychology

3) Theoretical Programme in Social and Developmental Psychology

Completion of the programme in Educational Psychology results in a Master degree. Students who enroll in the programme have the option to follow either a research/theoretical track which entitles them to continue their studies at a Ph.D. level, or a professional practice track which allows them to register and work as professional educational psychologists. The basic requirement for admission to the programme is a Bachelor's degree in Psychology or Education. Completion of the theoretical programmes also results in a Doctoral degree. A Master degree in Psychology or Educational Psychology is required for admission. Students who enroll in the programme have the option to specialize in one of the three areas.

Admission Requirements

For information on the application procedure and admission requirements, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) 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.

MASTER DEGREE IN PSYCHOLOGY

(Applied Programme in School Psychology)

Programme Description

The Master in School Psychology is a 3-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 ECTS and complete a Master 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.

For all the reasons mentioned above, the School Psychology Programme has a minimum duration of three years of full-time attendance.

Structure of the Programme
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.

<table>
<thead>
<tr>
<th>Compulsory courses</th>
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<tr>
<td>PSY 604 Multivariate Statistics for the Behavioral Sciences</td>
<td>7.5</td>
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<tr>
<td>PSY 705 Diagnostic Intellectual Assessment of Children and Adolescents</td>
<td>7.5</td>
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<tr>
<td>Compulsory clinical practicum</td>
<td>60</td>
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<tr>
<td>PSY 698 Clinical Practicum Seminar I</td>
<td>5</td>
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<tr>
<td>PSY 699 Clinical Practicum Seminar II</td>
<td>27.5</td>
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<tr>
<td>PSY 700 Clinical Practicum Seminar III</td>
<td>27.5</td>
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<tr>
<td>Compulsory graduate research study</td>
<td>7.5</td>
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<tr>
<td>PSY 622 Graduate Research Study I</td>
<td>2.5</td>
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<tr>
<td>PSY 623 Graduate Research Study II</td>
<td>2.5</td>
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<tr>
<td>PSY 624 Graduate Research Study III</td>
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<tr>
<td>PSY 688 Compulsory Comprehensive Examination of Professional Psychological Knowledge</td>
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**Elective courses***

| I. Theoretical background of psychology                                           | 37.5 |
| Five of the following courses:                                                   |      |
| PSY 601 Legal, 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 653                        | 7.5  |
| PSY 706 Neurophysiology (including components of Psychopharmacology)            | 7.5  |
| PSY 711 Introduction to Psychopharmacology                                       | 7.5  |
| PSY 715 Language Development and Language Disorders Across the Lifespan          | 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                                                  | 7.5  |
| PSY 614 Psychological Interventions in the School I                             | 7.5  |
| PSY 617 Counselling Psychology                                                   | 7.5  |
| PSY 652 Preventative Interventions at the School                                 | 7.5  |
| PSY 701 Psychology of Instruction                                                | 7.5  |
| PSY 708 Analysis and Modification of School Behavior                             | 7.5  |
| PSY 713 Experimental Psychology Seminar                                          | 7.5  |
| PSY 714 Psychological Interventions in the School II                            | 7.5  |

*It should be noted that the list is not exhaustive. More courses will be added in the future according to the needs of the programme.*

**Elective graduate research study**

(aditional to the 120 ECTS)

| PSY 625 Graduate Research Study IV                                               | 7.5  |
| PSY 626 Graduate Research Study V                                                | 7.5  |
| PSY 627 Graduate Research Study VI                                               | 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 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 programme. The elaboration of a complete and extended Master 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 thesis is carried out in two semesters, as follows: PSY 798 Master thesis I (15 ECTS) and PSY 799 Master Thesis II (30 ECTS). The course PSY 798 is prerequisite for the course PSY 799. Students on the professional track who choose to complete a Master thesis are credited with 45 ECTS (that is, they need more credits to graduate than those who do not complete a Master thesis). The completion of a Master 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.

**Comprehensive Examination**

In order to graduate, students must successfully pass a 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 comprehensive 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 comprehensive 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 comprehensive 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.

Programme of Studies

<table>
<thead>
<tr>
<th>Programme of Studies</th>
<th>ECTS</th>
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<tbody>
<tr>
<td><strong>First year</strong></td>
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<tr>
<td><strong>Fall semester</strong></td>
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<tr>
<td>PSY 604 Multivariate Statistics for the Behavioral Sciences</td>
<td>7.5</td>
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<tr>
<td>PSY 619 Intelligence: Development and Evaluation</td>
<td>7.5</td>
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<tr>
<td>PSY 706 Neuropsychology or</td>
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<tr>
<td>PSY 603 Child and Adolescent Psychopharmacology or</td>
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<tr>
<td>PSY 711 Introduction to Psychopharmacology</td>
<td>7.5</td>
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<tr>
<td>PSY 605 Psychometrics</td>
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<td><strong>30</strong></td>
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<tr>
<td><strong>Spring semester</strong></td>
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<tr>
<td>PSY 642 Child and Adolescent Psychopathology</td>
<td>7.5</td>
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<tr>
<td>PSY 715 Language Development and Language Disorders across the Lifespan or</td>
<td></td>
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<tr>
<td>PSY 730 Neuropsychological Assessment</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 637 Psychosocial Development and Cross-Cultural Psychology</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 601 Legal, Ethical and Professional Topics in Educational Psychology</td>
<td>7.5</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
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<tr>
<td><strong>Second year</strong></td>
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<td><strong>Fall semester</strong></td>
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<tr>
<td>PSY 615 Early Diagnosis and Intervention of Reading Disabilities</td>
<td>7.5</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
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</tbody>
</table>

| **Total of compulsory academic ECTS** | **112.5** |
| **Total of compulsory applied/clinical ECTS** | **60** |
| **Total of compulsory research ECTS** | **7.5** |

| **Third year** |      |
| **Fall semester** |      |
| PSY 699 Clinical Practicum Seminar II | 27.5 |
| PSY 623 Graduate Research Study II | 2.5 |
| **Total** | **30** |
| **Spring semester** |      |
| PSY 700 Clinical Practicum Seminar III | 27.5 |
| PSY 624 Graduate Research Study III | 2.5 |
| **Total** | **30** |

Description of Courses

All courses are credited with 7.5 ECTS.

**PSY 601 Legal, Ethical and Professional Topics in Educational Psychology**

The psychologist's ethical code will be discussed in regard to applied psychology. 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: factor analysis, analysis of variance and covariance, discriminant function analysis, multiple and logistic regression and cluster analysis. The course will strongly emphasize the applications of multivariate methods, rather than their theoretical derivation. All multivariate procedures will be discussed, analyzed, and interpreted in 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 School 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 examines issues of social and emotional development such as attachment, friendships, roles in a team, fears and related reactions.

**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 of School 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 Introduction to 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 Seminar

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 School 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 across the Lifespan

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
A review of contemporary theory and research on social, cognitive and emotional development in children belonging to minority groups. Application to the current situation in Cyprus, with emphasis on the potential problems facing students and families residing in Cyprus due to economic or political immigration etc. The course will also discuss other minority groups which often become victims of social discrimination.

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.

MASTER DEGREE IN COGNITIVE AND EDUCATIONAL PSYCHOLOGY

Introduction
The Master's Programme in Cognitive and 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.

Aim 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 consists of 120 Credit Units (ECTS). The first 75 ECTS are distributed in courses, according to the student’s interest area (Cognitive or Educational Psychology), and the 45 ECTS remaining are allocated for the required Thesis research. The Thesis is completed in two semesters (PSY 798 – 15 ECTS, and PSY 799 – 30 ECTS). The programme allows students to move on to doctoral level studies. However, candidates who seek admission to the doctoral programmes must follow the standard application and interview process.

Structure of the Programme

<table>
<thead>
<tr>
<th>Course Description</th>
<th>ECTS</th>
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<tbody>
<tr>
<td><strong>Required courses</strong></td>
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<tr>
<td>PSY 604 Multivariate Statistics for the Behavioral Sciences</td>
<td>7.5</td>
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<tr>
<td>PSY 620 Learning and Cognition</td>
<td>7.5</td>
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<tr>
<td>PSY 712 Cognitive Science</td>
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<tr>
<td><strong>Thesis</strong></td>
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<tr>
<td>PSY 798 Master Thesis I</td>
<td>15</td>
</tr>
<tr>
<td>PSY 799 Master Thesis II</td>
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<td><strong>Total</strong></td>
<td>67</td>
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<tr>
<td><strong>Elective courses</strong></td>
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<tr>
<td>Students will select 7 courses (a total of 52.5 ECTS) from the list below. A course from another department or from another graduate programme in the Psychology Department may also be considered as an elective course as long as the student’s supervisor approves of the substitution.</td>
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<tr>
<td><strong>Cognitive Psychology</strong></td>
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<tr>
<td>PSY 607 Memory and Executive Functions</td>
<td>7.5</td>
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<tr>
<td>PSY 608 Perception</td>
<td>7.5</td>
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<tr>
<td>PSY 616 Mental Representation</td>
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<tr>
<td>PSY 706 Neuropsychology*</td>
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<tr>
<td>PSY 713 Experimental Psychology</td>
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<tr>
<td>PSY 715 Language Development and Language Disorders Across the Lifespan*</td>
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<tr>
<td><strong>Educational Psychology</strong></td>
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<td>PSY 601 Legal, Ethical and Professional Topics in Educational Psychology</td>
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<tr>
<td>PSY 605 Psychometrics*</td>
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<td>PSY 609 Developmental Disorders</td>
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<tr>
<td>PSY 610 Psychology of Education*</td>
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</table>

Course Descriptions

All courses are credited with 7.5 ECTS.

**PSY 601 Legal, Ethical and Professional Topics in Educational Psychology**
See course description above.

**PSY 602 Master’s 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 above.

**PSY 605 Psychometrics**
See course description above.

**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 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 Disorders

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 above.

PSY 616 Mental Representation

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 potentials 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 above.

PSY 620 Learning and Cognition

The content of this course will include 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 above.

PSY 706 Neurophysiology

See course description above.

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 Seminar

See course description above.

PSY 715 Language Development and Language Disorders Across the Lifespan

See course description above.

PSY 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 Modeling, 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.

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 Aim of the Master Programme
The programme consists of 120 Credit Units (ECTS). The first 75 ECTS are distributed in courses (required and elective), and the 45 ECTS remaining are allocated for the required thesis research. The thesis is completed in two semesters (PSY 798 – 15 ECTS, and PSY 799 – 30 ECTS).

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 analysis levels of socio-psychological reality (intra-individual, interindividual, intergroup and representational ideological level)
- The study of small group dynamics, cooperation and competition in educational settings
- The study of social representation microgenesis, ontogenesis and sociogenesis
- The study of learning and cognitive development as a socio-psychological procedure
- 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**

<table>
<thead>
<tr>
<th>Required courses (4 courses, 30 ECTS in total)</th>
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<tbody>
<tr>
<td>PSY 604 Multivariate Statistics for the Behavioral Sciences</td>
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<tr>
<td>PSY 630 Contemporary Theories of Human Development</td>
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</tr>
<tr>
<td>PSY 637 Social Development and Social Settings</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 640 Social Influence and Social Representations</td>
<td>7.5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Elective courses (4 courses, 30 ECTS in total)</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 610 Psychology of Education</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 619 Intelligence: Development and Evaluation</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 625 Master’s Research</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 631 Developmental Psychopathology</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 632 Adolescence</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 677 Human Aggressiveness and Antisocial Behavior</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 689 Independent Study</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 602 Master’s Seminar: Advanced Issues in Psychology</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 707 Family and Child Development</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 715 Language Development and Language Disorders across the Lifespan</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 722 Cross-Cultural Psychology</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 741 Intergroup Relationships in Divided Communities</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 742 Social Psychology of Education</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 788 Advanced Research Methods</td>
<td>7.5</td>
</tr>
</tbody>
</table>

An appropriate course of another department or another graduate programme in the Psychology Department may also be considered as an elective course as long as the student’s supervisor approves the substitution.
Admission Requirements
For admission to this programme, a Psychology degree, a Social Science Degree, or an Educational Science degree from a recognized university is required.

Course Descriptions
All courses are credited with 7.5 ECTS.

**PSY 602 Master’s Seminar: Advanced Issues in Psychology**
Specialized course in seminar form, which discusses specific psychology issues.

**PSY 604 Multivariate Statistics for the Behavioural Sciences**
See course description above.

**PSY 610 Psychology of Education**
See course description above.

**PSY 619 Intelligence: Development and Evaluation**
See course description above.

**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 interpersonal influences on biological, cognitive, emotional and social development.

**PSY 631 Developmental Psychopathology**
This course will analyze two of the most important approaches in Developmental Psychology: Developmental Psychopathology and Developmental Neuropsychology. These two contemporary approaches, which aim to understand typical and non-typical development, suggest that development derives from a dynamic interaction of genetic, neuropsychological, social, cognitive, emotional and cultural influences. There will be discussions on the etiology of developmental problems and disorders, as well as their comorbidity. Moreover, the interaction between biological and social factors on psychopathological development will be discussed. Lastly, there will be a discussion about psychological resistibility and related findings that connect various protective factors to prevention and intervention.

**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 and 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 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 677 Human Aggressiveness 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 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 Across the Lifespan
See course description above.

PSY 722 Cross-cultural Psychology
See course description above.

PSY 741 Intergroup Relationships in Divided Communities
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 742 Social Psychology of Education
This course will discuss the socio-psychological bases of cross-cultural education. Students will learn the main theories of generation and decrease of prejudice, stereotypes and discrimination, as well as their application in educational settings. We will discuss the phenomenon of immigration from both the minority and the majority perspective, as well as the phenomenon of national conflicts, and the role that the educational system may play in peace consolidation, through the application of the discussed theories.

PSY 788 Advanced Level Research Methods
See course description above.

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, totaling 320 ECTS. Graduates of the program will be able to pursue careers in research and academia and will meet the criteria for enrollment in the registry of professional psychologists according to Cyprus Law.

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 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 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 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 the 75 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 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 defence of a doctoral dissertation proposal
6. Completion and successful defence of a doctoral dissertation

Programme Description

I. Academic Coursework

Students will complete ten 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 expected that students will have already learned the theoretical bases of Psychology (Cognitive, Biological, Developmental, Social and Research Methods), as well as basic counseling skills as part of their master programme. Therefore, these courses are not required as part of the doctoral program’s total ECTS. If a student has not attended at least one course in each of the above areas during the Master 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 during the 5th semester of their studies, after which they can begin their doctoral dissertation. The breakdown of the academic and dissertation courses are given below.

<table>
<thead>
<tr>
<th>Research courses</th>
<th>15 ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two of the following:</td>
<td></td>
</tr>
<tr>
<td>PSY 788 Advanced Research Methods (Pre-requisite: PSY 604: Multivariate Statistics for the Behavioral Sciences)</td>
<td>7.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clinical assessment courses</th>
<th>15 ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two of the following:</td>
<td></td>
</tr>
<tr>
<td>PSY 705 Diagnostic Intellectual Assessment of Children and Adolescents</td>
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</tr>
<tr>
<td>PSY 730 Neuropsychological Assessment</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 745 Diagnostic Assessment II (Personality, Emotion and Symptomatology)</td>
<td>7.5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Clinical intervention courses</th>
<th>22.5 ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three of the following:</td>
<td></td>
</tr>
<tr>
<td>PSY 711 Introduction to Psychopharmacology</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 716 Basic Clinical Skills</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 733 Theories and Systems in Psychotherapy</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 708 Analysis and Modification of School Behavior</td>
<td>7.5</td>
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<tr>
<td>PSY 748 Neuropsychological Rehabilitation</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific psychotherapy seminars</th>
<th>22.5 ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three of the following:</td>
<td></td>
</tr>
<tr>
<td>PSY 714 Specialized Seminar I: Psychological Problems and Interventions with Children and Adolescents: Psychological Interventions in the School</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 720 Advanced Seminar in Psychotherapy with Couples and Families</td>
<td>7.5</td>
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<tr>
<td>PSY 721 Seminar in Group Psychotherapy</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 723 Seminar on Cognitive Behavioral Therapy</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 724 System Theory and Interventions Seminar</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 725 Brief Psychotherapy Seminar</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 726 Specialized Seminar II: Clinical Geropsychology</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 727 Specialized Seminar III: Clinical Forensic Psychology</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 728 Specialized Seminar IV: Psychological Interventions in Health Settings</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 729 Specialized Seminar V: Severe Psychopathology, Diagnosis and Treatment</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Final comprehensive exam</th>
<th>15 ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 777 Preparation for Final Exam</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 800 Final Examination</td>
<td>7.5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Doctoral dissertation</th>
<th>180 ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 871 Research Level I</td>
<td>30</td>
</tr>
<tr>
<td>PSY 872 Research Level II</td>
<td>30</td>
</tr>
<tr>
<td>PSY 873 Research Level III</td>
<td>30</td>
</tr>
<tr>
<td>PSY 874 Research Level IV</td>
<td>30</td>
</tr>
<tr>
<td>PSY 875 Writing Level I</td>
<td>30</td>
</tr>
</tbody>
</table>
### 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 will be supervised both 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.

### Final Examination of Clinical Knowledge and Skills

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 1500 hours of supervised clinical practicum; and 3) fulfilled the clinical practicum aims stipulated the Department. The final exam will be an individual oral or written assessment that will be scored by a three-member committee, composed of the Department’s clinical practicum coordinator, a second member of the Department and a member outside the Department. The final exam will be graded as Pass/Fail and the result will be ratified by the Departmental Board. In case of failure, the Department may require the student’s further involvement in academic activities, or may even require the extension of his/her supervised clinical practicum, if necessary. The student has the right to take the exam two more times at a time specified by the Department.

### 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.

### PH.D. IN PSYCHOLOGY

#### Structure of the Programme

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.

<table>
<thead>
<tr>
<th>ECTS</th>
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</table>

#### I. Academic coursework

<table>
<thead>
<tr>
<th>Compulsory courses</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Two of the following courses)</td>
<td></td>
</tr>
<tr>
<td>PSY 788 Advanced Research Methods (pre-requisite: PSY 604 Multivariate Statistics for the Behavioral Sciences) or</td>
<td></td>
</tr>
<tr>
<td>PSY 789 Applied Data Analysis II</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 790 Doctoral Seminar: Development of Doctoral Research and Research Programmes</td>
<td>7.5</td>
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</tbody>
</table>
Elective courses  
(Four of the following courses)

<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 661 The Nature of Sciences and Cognitive Change</td>
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</tr>
<tr>
<td>PSY 706 Neurophysiology</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 707 Family and Child Development</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 710 Advanced Seminars in Cognitive, Developmental, and Educational Psychology</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 711 Introduction to Psychopharmacology</td>
<td>7.5</td>
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<tr>
<td>PSY 712 Cognitive Sciences</td>
<td>7.5</td>
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<tr>
<td>PSY 713 Experimental Psychology Seminar</td>
<td>7.5</td>
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<tr>
<td>PSY 715 Language Development and Language Disorders across the Lifespan</td>
<td>7.5</td>
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<tr>
<td>PSY 718 Psychology of Reading</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 719 Topics in Neuroscience</td>
<td>7.5</td>
</tr>
<tr>
<td>PSY 722 Cross-Cultural Issues in Psychology</td>
<td>7.5</td>
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<tr>
<td>PSY 730 Neuropsychological Assessment</td>
<td>7.5</td>
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</tbody>
</table>

II. Comprehensive examination and doctoral dissertation

<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 777 Preparation for Final Exam</td>
<td>1</td>
</tr>
<tr>
<td>PSY 800 Final Examination</td>
<td>15</td>
</tr>
</tbody>
</table>

Doctoral dissertation

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.

<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
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</thead>
<tbody>
<tr>
<td>PSY 871 Research Level I</td>
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</tr>
<tr>
<td>PSY 872 Research Level II</td>
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<tr>
<td>PSY 873 Research Level III</td>
<td>30</td>
</tr>
<tr>
<td>PSY 874 Research Level IV</td>
<td>30</td>
</tr>
<tr>
<td>PSY 875 Writing Level I</td>
<td>30</td>
</tr>
<tr>
<td>PSY 876 Writing Level II</td>
<td>30</td>
</tr>
<tr>
<td>PSY 877 Writing Level III</td>
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</tr>
<tr>
<td>PSY 878 Writing Level IV</td>
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</tr>
<tr>
<td>PSY 879 Writing Level V</td>
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</tr>
<tr>
<td>PSY 880 Writing Level VI</td>
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<tr>
<td>PSY 881 Writing Level VII</td>
<td>30</td>
</tr>
<tr>
<td>PSY 882 Writing Level VIII</td>
<td>30</td>
</tr>
<tr>
<td>PSY 883 Writing Level IX</td>
<td>30</td>
</tr>
<tr>
<td>PSY 884 Writing Level X</td>
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</tr>
</tbody>
</table>

Six Academic Courses X 7.5 ECTS                                         45
Comprehensive Examination                                               15
Research Levels                                                         120
Dissertation Writing Levels                                             60

TOTAL                                                                  240

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.

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 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.
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 702 Clinical Practicum Seminar I (NEW)**
Various clinical topics. The lectures 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 3 semesters during practicum training.

**PSY 703 Clinical Practicum Seminar II (NEW)**
Various clinical topics. The lectures 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 3 semesters during practicum training.

**PSY 705 Diagnostic Intellectual Assessment of Children and Adolescents**
See course description above.

**PSY 706 Neurophysiology**
See course description above.

**PSY 707 Family and Child Development**
See course description above.

**PSY 708 Analysis and Modification of School Behavior**
See course description above.

**PSY 710 Advanced Seminars in Cognitive, Developmental, and Educational 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 Introduction to Psychopharmacology (NEW)**
See course description above.

**PSY 712 Cognitive Science**
See course description above.

**PSY 713 Experimental Psychology Seminar**
See course description above.

**PSY 714 Psychological Interventions in the School II**
See course description above.

**PSY 715 Language Development and Language Disorders across the Lifespan**
See course description above.

**PSY 716 Basic Clinical Skills (NEW)**
Foundation course that focuses on the clinical thinking and the clinical methods necessary for assessment and psychotherapy. Review theory and research that allows students to develop clinical skills regarding interviewing, managing difficult and sensitive topics, managing clients’ emotional reactions, insight, self-management, and defining the problem. This course the issues and problems involved in clinical inference and presents the process of clinical inference. Specific clinical skills will be discussed and practiced throughout the semester.

**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**
An important problem in Cognitive Science refers to the way knowledge is represented in the brain and mind. The study of this problem requires previous knowledge of the basic methods of knowledge representation, such as propositional representation, semantic nets, frames, the distributed representations of neural networks, etc. The comprehension of these methods, as well as their critical appraisal, require knowledge of both symbolic logic and basic connectionist theory. This course aims to introduce the postgraduate student to the fundamentals of symbolic logic and connectionist theory and discusses the various means of knowledge representation.

**PSY 720 Advanced Seminar in Psychotherapy with Couples and Families (NEW)**
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 assessment and treatment with these groups and will learn to anticipate and deal with the problems that arise from the associations between different group members and the role of...
the therapist in this system. Relevant clinical skills and resolution of related ethical issues will be practiced through simulations and clinical cases.

**PSY 721 Seminar in Group Psychotherapy (NEW)**

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. The skills necessary for group leadership will receive attention through experiential exercises and/or group experiences.

**PSY 722 Cross-Cultural Issues in Psychology**

See course description above.

**PSY 723 Seminar on Cognitive Behavioural Therapy I (NEW) (Compulsory)**

The purpose of this course is to introduce the basics of cognitive-behavioural theory, research, and psychotherapy practice. It will focus on the basis of the theory of the approach and how it 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” behaviour therapies such as dialectical behaviour 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 bears on this work. At the completion of the course, students should be competent at understanding, explaining, critically evaluating, teaching, and applying the philosophy, the advantages and limitations, the research, and the techniques of CBT and the empirical approach to therapy. This course will consist of a mix of lecture, class discussion, videos, demonstrations, role plays, and student presentations.

**PSY 724 System Theory and Interventions Seminar (NEW)**

Review of the various system models as they apply to psychological intervention. Emphasis will be given to 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 given to developing students’ ability to consider contextual factors (e.g. cultural, social, familial, work, school).

*PSY 725 Brief Psychotherapy Seminar (NEW)*

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 brief psychotherapy skills will be achieved through structured discussion, experiential learning, case study, and role playing. This course is expected to further develop the students’ basic psychotherapy knowledge and skills.

**PSY 726 Specialized Seminar II: Clinical Geropsychology (NEW)**

This course examines psychological and health aspects of ageing. It covers normal/healthy ageing. In addition, it presents research, assessment and intervention strategies regarding typical problems of aging challenging clinical practice. Information is presented within a framework that emphasises the interplay between 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 planning for problems faced in later stages of life. The development of clinical skills is expected to take place 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 (NEW)**

This seminar aims to train students into applying their clinical knowledge and skills in forensic settings. During the beginning of the Seminar theories pertaining to aggression, criminality and antisocial behavior will be addressed. The main focus, however, will be in working with these challenging populations, the role of the Clinical Psychologist as an expert witness, and 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 and their environment 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 (NEW)**

Health Psychology is the interdisciplinary field concerned with the development and integration of behavioural, 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. Behavioural medicine is the clinical or application branch of health psychology. Thus, behavioural medicine is a sub-speciality 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 behavioural medicine. In particular, it will examine basic psychological processes that influence health and illness including but not limited to perceived control, stress, behavioural conditioning, factors that influence behavioural change, self-efficacy and social support. It will also examine specific behaviours, illnesses, and physical conditions that are part of the behavioural 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 specific skills associated with delivering cognitive behavioural psychotherapy in the health care setting. These interventions will focus on both behavioural health (i.e., psychiatric) outcomes as well as health related behaviours such as medication adherence. Through 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 (NEW)**

Review of theory, research, and intervention for psychotic and personality 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 biopsychosocial framework will be applied to the understanding of severe psychopathology. Assessment and intervention 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**

See course description above.

**PSY 733 Theories and systems in Psychotherapy (NEW) (compulsory)**

This course serves as an introduction to the students in Clinical Psychology into 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 it proceeds to diagnosis and the basic methods each uses in treatment. Through this introduction students will be have access to a wide range of therapy tools that they can utilize in their clinical practice but they will also be able to best select the theoretical approach that fits them and which they can study in greater depth during their clinical internship.

**PSY 745 Diagnostic Assessment II (Personality, Emotion and Symptomatology) (NEW)**

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 into the various methods used in personality assessment, emphasis will be given in 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 755 is a prerequisite.*

**PSY 748 Neuropsychological Rehabilitation (NEW)**

This course is a sequence of the course on neuropsychological assessment (Psy 730). Students will learn how to interpret assessment findings in order to develop a neuropsychological profile and develop therapeutic goals for neuropsychological rehabilitation. The course will discuss prominent theories of neuropsychological rehabilitation and evidenced 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 788 Advanced Research Methods**

See course description above.

**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 trials implementation. These methodologies are presented and discussed in parallel with relating statistical techniques so that student to be able to resolve questions related to design, 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 to learn how to prepare a research proposal suitable for funding. The course will have a seminar format where students will express and develop their ideas about their thesis; they will describe the problems that occur and their questions, in order to receive feedback from the instructor and from the rest of the participants in the group.
Research Interests of the Academic Staff

- **Marios Avraamides**  
  *Assistant Professor*  
  Organisation of spatial memory, spatial updating and orientation, ego motion perception, Reasoning in Virtual Environments.

- **Fofi Constantinidou**  
  *Associate 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 Diakidou**  
  *Associate Professor*  
  Comprehension and learning from text, Knowledge acquisition and conceptual change, creativity.

- **Kostas Fantis**  
  *Lecturer*  
  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.

- **Maria Karekla**  
  *Lecturer*  
  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.

- **Georgia Panayiotou**  
  *Assistant Professor*  
  Emotion and cognition, psychophysiology, self/focused attention, disruptive behavior disorders in children.

- **Timoteos 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**  
  *Assistant Professor*  

- **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.

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**Contact details**

**For the Theoretical Programme in Cognitive, Developmental and Educational Psychology**  
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Tel.: 22892086  
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Maro Nearchou  
Tel.: 22892070  
e-mail: nearchou.maro@ucy.ac.cy  
Fax: 22892071  
http://www.ucy.ac.cy/psych-en
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.

Structure of the M.A. programme

The M.A. programme in Social and Political Theory is comprised of:

I. Taught courses
II. M.A. dissertation

I. Taught modules

Each student is required to follow four compulsory courses and four elective courses that will depend upon 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 the Admission and Attendance Regulations, as well as the Application Requirements, see page 16. For more information, students may consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/ 61) or the Department’s Secretariat.

In addition to the general requirements, graduates of Greek universities or the University of Cyprus should hold a “Αλάν 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
For information on the requirements for obtaining a Master degree, see the Admission and Attendance Regulations - Application Requirements on page 16.

Successful completion of 90 ECTS (European Credit Transfer System) is required. These are allocated as follows:

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Courses [(4x7.5)+(4x7.5)] =</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60</td>
</tr>
<tr>
<td>ECTS</td>
<td>M.A. dissertation [1x30] =</td>
</tr>
<tr>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>90</td>
</tr>
</tbody>
</table>

European Credit Transfer System (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, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/ 61) or the Department’s Secretariat.

MASTER PROGRAMME IN SOCIAL AND POLITICAL THEORY
The M.A. in Social and Political Theory offers specialisation 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. A further and more general aim of the M.A. programme is to prepare students for Ph.D. study and specialisation in sectors that support social research and research within special programmes.

The programme can be attended on a full-time or part-time basis.

Calculation of work load (ECTS credits) for the M.A. programme in Social and Political Theory
The ECTS credit system 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 credit courses correspond to 200 hours of work. It is suggested that the credits be divided as follows, per course:

<table>
<thead>
<tr>
<th>ECTS</th>
<th>Three teaching hours x 13 weeks</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>39</td>
</tr>
<tr>
<td>ECTS</td>
<td>Six hours of guidance meetings with students</td>
</tr>
<tr>
<td></td>
<td>7</td>
</tr>
<tr>
<td>ECTS</td>
<td>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)</td>
</tr>
<tr>
<td></td>
<td>104</td>
</tr>
<tr>
<td>ECTS</td>
<td>Preparation and writing of final essay for the course</td>
</tr>
<tr>
<td></td>
<td>50</td>
</tr>
<tr>
<td>ECTS</td>
<td>Total working hours per course per semester</td>
</tr>
<tr>
<td></td>
<td>200</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>ECTS</th>
<th>1st Semester</th>
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<tbody>
<tr>
<td></td>
<td>(Two compulsory taught courses and two elective taught courses = 30 ECTS)</td>
</tr>
<tr>
<td></td>
<td>Two compulsory taught courses:</td>
</tr>
<tr>
<td></td>
<td>SPS 510 Interpretative Approaches to Political Theory 7.5</td>
</tr>
<tr>
<td></td>
<td>SPS 610 Classical Sociological Theories 7.5</td>
</tr>
<tr>
<td></td>
<td>Two elective taught courses from the list below:</td>
</tr>
<tr>
<td></td>
<td>SPS 500 Research Methods 7.5</td>
</tr>
<tr>
<td></td>
<td>SPS 511 20th-century Political Concepts and Theories 7.5</td>
</tr>
<tr>
<td></td>
<td>SPS 611 Technology and Social Change 7.5</td>
</tr>
<tr>
<td></td>
<td>SPS 618 Globalisation and Social Theory 7.5</td>
</tr>
</tbody>
</table>
2nd Semester

(Two compulsory taught courses and two elective taught courses = 30 ECTS)

Two compulsory taught courses:
SPS 512 Political Sociology 7.5
SPS 612 Contemporary Sociological Theories 7.5

Two elective taught courses from the list below:
SPS 514 Feminist Theory 7.5
SPS 613 Social Anthropology 7.5
SPS 614 Sociology of Social Movements 7.5
SPS 616 Sociological and Political Theories of Legitimacy 7.5

3rd Semester

SPS 599 Dissertation 30
Total 90

EUROPEAN MASTER IN HUMAN RIGHTS AND DEMOCRATISATION (Joint Degree)

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 27 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.MA 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.

For more information:
http://www.emahumanrights.org
http://www.eiuc.org

EIUC Secretariat

European Master Degree in Human Rights and Democratisation (EMA)
Monastery of San Nicolò
Riviera San Nicolò 26
30126 Venice - Lido, Italy
Tel.: +39 041 2720911
Fax.: +39 041 2720914
Email: secretariat@eiuc.org

Coordinator of the European Master

Kalliope Agapiou-Josephides
Assistant Professor
Tel.: (+357) 22894562
E-mail: 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, see the *Admission and Attendance Regulations – Application Requirements* on page 16, or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) 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 and the structure of the Ph.D. programmes, see the *Admission and Attendance Regulations – Application Requirements* on page 16 or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s 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 every September.

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 if: a) the candidate’s first language is not Greek, and b) the research supervisor agrees.

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**
   Successful completion of 240 ECTS (European Credit Transfer System) is required. The credits break down as follows:
   - Courses (credited by the MA programme) 60 ECTS
   - Research (4 semesters x 30 ECTS) 120 ECTS
   - Writing of postgraduate thesis (2 semesters x 30 ECTS) 60 ECTS
   - Total 240 ECTS

**Submission of Application - Registration**
For information on the application requirements and registration, see the *Admission and Attendance Regulations – Application Requirements* on page 16 or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

In addition to the general requirements, applicants must also consider the following:
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 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 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. Oakeshott, 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 513 Critical Social Theory**

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 610 Classical Sociological Theories**

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 616 Sociological and Political Theories of Legitimacy

The course mainly analyses the effects of both political sociology and the sociology of law on contemporary governance theories of sovereignty and legalisation. First, we will reconstruct and interpret the theories that are silently being borrowed from sociological thinking and political theology by the modern constitutional theories of legalisation and state control. We will then discuss the conflict between constitutionalism and democracy and the matter of guaranteeing the constitutional regime under weak or strong rule. The concepts of conformity to the law, pluralism, social and national coherence, war, coup, revolution, legal and illegal use of violence with regards to the constitutional right of resistance will be critically investigated. The module's theoretical horizons are the works of Marx, Weber, Calhoun, Schmitt, Arendt, Kelsen, Luhmann, Ackerman, Elster, Holmes, Kondylis, Przeworski, Arato and Habermas.

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.

Research Interests of the Academic Staff

- **Kalliopi 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.

- **Marios Constantinou**
  Assistant Professor
  Micro-macro linkages between contemporary social theory and constitutionalism under post-colonial conditions in ethnically divided societies; phenomena of polycentric legitimation of power by reference to subsystems; sociology of culture with special interest in the management of post-modern challenges from ethnic diasporas in the European periphery.

- **Kyriakos Demetriou**
  Associate 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.

- **Maria Hadzipavlou**
  Assistant Professor
  Conflict Resolution – ethnic and international conflict with an emphasis on Cyprus. The comparative application of the “Linkage model” at macro and micro levels on multi-ethnic societies which experience stability and others which have not resolved their differences. The role of narrative as a tool in conflict resolution. The role of feminism and gender in understanding politics – a comparative approach in European and non-European societies. Gender and conflict and the exclusion of women from the negotiation process in Cyprus, Israel and Ireland.
• **Joseph S. Joseph**  
  *Professor*
  Professor Joseph is on leave serving as Ambassador in Greece.

• **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.

• **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**  
  *Associate 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**  
  *Assistant 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.

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**Contact details**

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**Department Administrators**
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Stavroula Sofroniou  
Tel.: 22894561  
Fax: 22894559  
e-mail: sofroniou.stavroula@ucy.ac.cy

http://www.ucy.ac.cy/sap-en
The aim of the Department of Economics is to advance economics at the national and international level.

The Department offers the following three Master 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 Economics (MECO)

• Master Degree in Monetary and Financial Economics (MMFE)

The second and third programmes (MECO, MMFE) are designed for students who do not intend to continue their studies for a Ph.D. degree.

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 at the Department

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 organisation 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 Department 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 Public and Business 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 Programmes**

**Admission Requirements**

In addition to the requirements described in the relevant *Admission and Attendance Regulations* (see page 16), 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, see the *Admission and Attendance Regulations – Application Procedures* on page 16.

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 credit units (ECTS) in graduate courses. For the Master Degree in Economics and the Master Degree in Monetary and Financial Economics programmes, the completion of eight courses and a Master thesis is required. For the Master Degree in Economic Analysis programme, the requirement is twelve courses or eight courses plus a Master 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 programme are described below.

**Master Thesis**

(ECO 698 – 24 ECTs, MECO and 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 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 Programme of Studies is as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
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</thead>
<tbody>
<tr>
<td>ECO 601</td>
<td>Microeconomic Analysis I</td>
<td>7.5</td>
</tr>
<tr>
<td>ECO 602</td>
<td>Macroeconomic Analysis I</td>
<td>7.5</td>
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<tr>
<td>ECO 603</td>
<td>Statistics and Econometrics I</td>
<td>7.5</td>
</tr>
<tr>
<td>ECO 604</td>
<td>Analytical Methods in Economics</td>
<td>7.5</td>
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</table>

**First semester**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
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</thead>
<tbody>
<tr>
<td>ECO 651</td>
<td>Microeconomic Analysis II</td>
<td>7.5</td>
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<tr>
<td>ECO 652</td>
<td>Macroeconomic Analysis II</td>
<td>7.5</td>
</tr>
<tr>
<td>ECO 653</td>
<td>Statistics and Econometrics II</td>
<td>7.5</td>
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</table>

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
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</thead>
<tbody>
<tr>
<td>ECO 673</td>
<td>Applied Microeconometrics</td>
<td>7.5</td>
</tr>
<tr>
<td>ECO 680</td>
<td>Topics in Financial Econometrics</td>
<td>7.5</td>
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</tbody>
</table>

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 699</td>
<td>Master Thesis</td>
<td>30</td>
</tr>
</tbody>
</table>

**Notes:**
1. Students may replace an elective course with a graduate course offered by other University Departments, following approval from the Department Board.
2. Students may replace an elective course with an undergraduate course offered by other University Departments, following approval from the Department Board.

**MASTER IN ECONOMICS (MECO)**

This programme is designed for students who want to acquire an in-depth understanding of economics in general without specializing in a specific area.
**Compulsory courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>ECO 661 Microeconomics</td>
<td>10</td>
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<tr>
<td>ECO 662 Macroeconomics</td>
<td>10</td>
</tr>
<tr>
<td>ECO 663 Econometrics</td>
<td>10</td>
</tr>
<tr>
<td>ECO 673 Applied Microeconometrics</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**Elective courses**

Four courses as follows:

**A. At least three from:**
- 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 |
- ECO 641 Consumer Theory and Applications | 7.5 |

**B. At least one from:**
- ECO 606 International Finance | 7.5 |
- ECO 610 Money, Banking and Financial Economics | 7.5 |
- ECO 643 Monetary and Financial Analysis | 7.5 |
- ECO 644 The Economics of Firm Financing | 7.5 |
- ECO 646 Monetary Economics | 7.5 |

**Master thesis**

24

The thesis must be related to the specific programme and must satisfy the criteria specified above (General Programme Structure – Master Thesis).

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**Master in Monetary and Financial Economics (MMFE)**

This programme is designed for students who want to acquire specialized knowledge with the purpose of seeking employment in the areas of monetary and financial economics, either in the public or in the private sector.

**Compulsory courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>ECO 661 Microeconomics</td>
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<tr>
<td>ECO 662 Macroeconomics</td>
<td>10</td>
</tr>
<tr>
<td>ECO 663 Econometrics</td>
<td>10</td>
</tr>
<tr>
<td>ECO 680 Topics in Financial Econometrics</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**Electives courses**

28.5-30

Four courses from:
- ECO 606 International Finance | 7.5 |
- ECO 610 Money, Banking and Financial Economics | 7.5 |
- ECO 643 Monetary and Financial Analysis | 7.5 |
- ECO 644 The Economics of Firm Financing | 7.5 |
- ECO 646 Monetary Economics | 7.5 |

Upon Department approval, one of the above courses can be replaced with a course offered by the Department of Public and Business Administration from the following list:

- PBA 521 Financial Theory | 7 |
- PBA 522 Investments | 7 |
- PBA 530 Seminar on Cyprus Economy, Banking and Financial Markets | 6 |

The thesis must be related to the specific programme and must satisfy the criteria specified above (General Programme Structure – Master Thesis).

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**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 organisations, 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. Master degree in Economics or related field (e.g., mathematics, statistics). Applicants must have fulfilled all requirements of their Master degree by the month of September in the year of admission.
2. Very good command of the English language, certified by international examinations, such as GCE, TOEFL or other examinations.

**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 take compulsory courses which prepare them for the comprehensive examinations in Microeconomics, Macroeconomics and Econometrics at the end of the year. Students must complete this requirement no later than their fifth semester of studies. Full details about the examination are provided in the Comprehensive Examination Guide.
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 the advisor, the student will prepare and successfully defend his/her research proposal by the end of the third year of studies.

C. Research - Submission of Dissertation

Students will conduct their research under the guidance of their advisor.

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 University of Cyprus elective courses (therefore, courses ECO 601/602/603/651/652/653 are excluded).

Elective courses

<table>
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<tr>
<th>Course</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>ECO 604 Analytical Methods in Economics</td>
<td>7.5</td>
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<tr>
<td>ECO 605 International Trade</td>
<td>7.5</td>
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<tr>
<td>ECO 606 International Finance</td>
<td>7.5</td>
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<tr>
<td>ECO 610 Money, Banking and Financial Economics</td>
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<tr>
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<td>7.5</td>
</tr>
<tr>
<td>ECO 680 Applied Financial Econometrics</td>
<td>7.5</td>
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</tbody>
</table>

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 weekly departmental seminar series and the workshop in economic research (at least 80% of them)

b. They must present their research before the workshop in economic research (students signed up for research stage 15 ECTS are exempted from this requirement)

The director of graduate studies is responsible for overseeing the completion of the above requirements of doctoral students.

Comprehensive Examinations in Economic Analysis and Econometrics

The comprehensive examination is offered in September and consists of three parts: Microeconomic Analysis, Macroeconomic Analysis and Econometrics. Full details about the comprehensive examinations and the syllabuses are provided in the Comprehensive Examination Guide.

Defence of Research Proposal

By the end of the sixth semester, students are required to have prepared and successfully defended their research proposal.

Students are expected to demonstrate their ability to study a new subject in an original way, and knowledge of the appropriate research methods. They are also expected to present some supportive preliminary results.

Defence of the Thesis

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, see the Admission and Attendance Regulations – Application Procedures on page 16, or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61).

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.

**Description of Courses**

**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)**

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

**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 Organisation and Policy (7.5 ECTS)**
Industrial organisation 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 643 Monetary and Financial Analysis (7.5 ECTS)

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 (10 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 (10 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 (10 ECTS)

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  
  Associate 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.

• Yannis Bilias  
  Associate Professor  
  Econometrics, Statistics.

• Andri Chassamboulli  
  Lecturer  

• Louis Christofides  
  Professor  
  Labour Economics, Macroeconomics, Applied Econometrics.

• Paris Cleanthous  
  Lecturer  
  Industrial Organisation, Applied Microeconomics, Health Economics.

• Sofronis Clerides  
  Associate 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 – Lyssiotou  
  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  
  Assistant 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  
  Lecturer  
  Econometrics, Time series Econometrics.

• Andros Kourtellos  
  Assistant Professor  

• 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.

• Panos Pashardes  
  Professor  

• Nicos Theodoropoulou  
  Lecturer  
  Labour Economics, Econometrics.

• Marios A. Zachariadis  
  Assistant Professor  

• Nicos Ziros  
  Lecturer  
  Microeconomics, Mathematical Economics, General Equilibrium Theory, Game Theory.

Contact details
Department Secretariat  
Anastasia Demetriou  
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http://www.ucy.ac.cy/econ-en
ECONOMICS RESEARCH CENTRE

Mission
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 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 areas:

Public Sector
Research in the Public Sector examines all aspects of public economics, with a focus on fiscal policy and the wider role of government in the economy. Current research interests at ERC focus on active labour market policies, the estimation of government revenue and expenditure elasticities, the economic evaluation of public education and the assessment of the progress of Cyprus in relation to the Lisbon Strategy.

Corporate Sector
The Corporate Sector investigates the factors that affect productivity and the relation between the quality of the environment and economic growth. The Sector also conducts specialised research projects that relate to sectors of economic activity such as the analysis of the housing market.

Household Sector
The Household Sector studies the behavioural and welfare aspects of household economics. The extension and updating of the Tax-Benefit Microsimulation Model for the Cyprus Economy, along with applications of the model on specific taxation and welfare policy issues, are at the centre of the sector’s research agenda. Other topics of research interest include household health expenditure and car ownership trends in Cyprus.

Forecasting Sector
The Sector focuses on the analysis of Business and Consumer Survey data, which records business executives’ and consumers’ perceptions of current economic conditions and expectations regarding the evolution of economic variables. A further objective of the Sector is the development of models for forecasting various indicators of the Cyprus economy. The forecasts will help both policy makers to implement appropriate economic policy, and firms to plan their activities.

Other Research Projects
This sector undertakes research on specialised topics. At present research in this sector focuses on energy policy and planning, the impact of foreign workers on domestic unemployment, aspects of tourism economics, financial markets, etc.

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 ERC.

The Advisory Council has funding responsibilities and advises the Director of the ERC on selecting research topics of interest to Cyprus. It has an institutional membership representing public and private economic research interests.

**Director**
Professor Panos Pashardes

**Contact details**

**Secretariat**
Angela Shekersavva
Tel: 22893660
Fax: 22895027
e-mail: erc@ucy.ac.cy
http://www.ucy.ac.cy/erc-en
The Department of Public and Business Administration intends to offer an integrated programme of postgraduate studies that will emphasize 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 internationally accepted management principles with sensitivity to the realities and priorities of the local and regional industries.

The Master in Finance focuses on the use of powerful analytical and financial tools and the latest information technology for the support of the tactical and strategic goals of an enterprise.

The Master in Business Administration (MBA) is looking to take on board individuals with promising leadership potential and excellent academic credentials, who will share knowledge and ideas, actively contribute to the programme and shape the future of business practice.

**Introduction**

The modern business environment is being transformed. Markets are becoming global and intensely competitive, organisations are merging, and regulatory barriers are falling. Information technology creates a virtual business environment where services are rendered, transactions take place, and deals are concluded more efficiently. The 1980’s and 1990’s have witnessed the transformation of the industrialized nations from manufacturers of goods to producers of services. Many advanced developing countries are closely following this lead, while other developing countries are gradually filling the gap in the manufacturing processes.

The only constant in today’s environment is change itself. The 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" becomes particularly relevant for the managers of the 2000’s and beyond.

The Department of Public and Business Administration (PBA) aims to produce managers who will lead their enterprises and organisations through these exciting times. It intends to offer an integrated programme of postgraduate studies that will emphasize 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 internationally accepted management principles with sensitivity to the realities and priorities of the local and regional industries. The Master in Finance focuses on the use of powerful analytical and financial tools and the latest information technology for the support of the tactical and strategic goals of an enterprise.

The Master in Business Administration (MBA) is looking to take on board individuals with promising leadership potential and excellent academic credentials, who will share knowledge and ideas, actively contribute to the programme, and shape the future of business practice.

**Goals of the Department**

The Department’s goal is to provide local and regional leadership in all aspects of Public and Business Administration.
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. The faculty members maintain close contacts with researchers at prominent universities in Europe and North America. The research interests of the faculty are many and diverse.

Research in Finance covers several diverse aspects of financial management. Models for capital investment analysis and portfolio management in the face of uncertain or volatile market conditions are of central interest to our faculty. Studies range from global asset/liability management using complex interest rate contingent claims models, to stock market volatility, to the pricing of capital investment opportunities with embedded options, and synthetic securities. Information technology is viewed both as an asset used in the context of planning purposes and as a means for achieving the strategic goals of the financial manager.

Research in Accounting explores the use of accounting data to support the decision-making processes of managers, investors, bankers and manufacturers alike. Investment decisions of organisations, such as oil and gas companies or public utility services, are greatly affected by the expected cash flows to be generated by the organisation from both operating and financing activities. Projections of future cash flows, as well as budgeting, management control and cost analysis can help substantially the planning of future investment decisions. Such information can be obtained from the analysis of accounting data. Current projects in the Department involve the analysis of both local industries and broader industrial sectors in an international setting.

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

Research in Management Science has both methodological and problem-oriented goals. On the methodological side, there are ongoing projects 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 in business problems.

The faculty maintain close contacts with researchers at prominent universities in Europe, North America, and the region. Formal research collaborations are ongoing with faculties at Harvard University, University of Chicago, Columbia University, UCLA, the Wharton School of the University of Pennsylvania, the University of Southern California, University of Kansas, and the George Washington University in the United States, the Universities of Bocconi, Bergamo, and Calabria in Italy, the University of Vienna in Austria, the Erasmus University in the Netherlands, the London Business School and the Imperial College in the United Kingdom, the University of Toronto in Canada, and others. Projects by Department faculty have attracted more than two million U.S. dollars 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 goals of the Department include international research on the Cyprus financial and banking system with emphasis on a holistic analysis of the system rather than short-term operational problems of specific organisations. At present, research focuses on issues of risk assessment and management under interest rate uncertainty, financial markets analysis, management of banking information systems, improved accounting methods for debt management according to European Union standards, assessment of functional productivity and profitability of bank branches, and the use of Artificial Intelligence in the pricing of derivative products.
The HERMES Centre on Computational Finance and Economics was established in 1993 and has been subsidized by the European Commission since 2000 as a Centre of Excellence. The cornerstones of the disciplinary approaches of the Centre’s research are: theoretical modelling, empirical data-driven research and the use of computations to support financial decision making. The Centre for Banking and Financial Research is a continuation of HERMES.

Every two years, the Department organises an academic conference on "Capital Markets Research." It has also organised or co-organised with other prominent universities international conferences in Cyprus, such as the Annual Meeting of the Multinational Finance Society, Annual International Conference on Real Options, CRANET Conference on Human Resource Management, Meetings of the Euro Working Group on Financial Modelling, Applied Mathematical Programming and Modelling, Computational Statistics & Data Analysis.

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 established 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 all major European and North American journals and business magazines and books and is continually enriched. In addition, the library maintains databases with international financial and accounting information such as Datastream, Compustat, Global Vantage, CRSP, IBES, and the Wall Street Journal Index, which students can use for their research projects.

Postgraduate Programmes
The Department of Public and Business Administration intends to offer a complete range of postgraduate programmes at the Master (M.Sc.) and Doctoral (Ph.D.) level in all major business disciplines. At present, the Department offers the M.Sc. programme in Finance, and, jointly with the Department of Economics, the M.Sc. in Financial Economics, while other Master, executive and Ph.D. programmes are being developed. Students can already be admitted to the Ph.D. programme with a Finance, Accounting, or Management Science concentration.

The Department of Public and Business Administration also offers the following two graduate programmes in Business Administration:

- The Master of Business Administration (MBA) Programme (full-time study)
- The Professional Master of Business Administration (PMBA) Programme (part-time study)

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 fast-changing business environment.

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

The international CEO Magazine (Spring 2010) included the UCY MBA programme in its top Executive MBA programme Rankings in Europe.

Separate programmes for both the MBA and the Professional MBA are offered in Greek and English. When applying to the programme, candidates must declare their preference regarding the language of instruction. For more information, please visit www.mba.ucy.ac.cy.

Admission Criteria for the MBA Programmes (full and part time)
- 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 as an additional qualification
- Proficiency in English must be demonstrated (for candidates who apply for the programme in English) through one of the following: TOEFL, IELTS, GCE or equivalent, unless the applicants hold a degree from an English-speaking institution
• Two recommendation letters from faculty members of Higher Education Institutions or people who are familiar with the work of the candidate
• Personal interview to assess the applicant’s contribution potential to the programme

**Admittance Criteria for the other Postgraduate Programmes**

Students must have completed a Bachelor Degree (or should be expecting to complete one by the start of the Master) with a general grade at least ‘B’. A Master Degree will be considered as an additional credential, and could lead to a limited number of course waivers. The applicants must know the English language at a satisfactory level. For example, they should have at least a ’B’ in the GCE O’Level in English language, or at least 600 in the TOEFL. In addition, it is preferable that they have a minimum of 600 in the GMAT, or 700 in the math section of the GRE.

**M.Sc. PROGRAMME IN FINANCE**

For the M.Sc. Programme in Finance, at least 90 units (ECTS) must be completed. The analytical programme per semester is shown on the following table:

<table>
<thead>
<tr>
<th>Courses</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBA 515 Basic Accounting</td>
<td>2</td>
</tr>
<tr>
<td>PBA 521 Financial Theory</td>
<td>7</td>
</tr>
<tr>
<td>PBA 522 Investments</td>
<td>7</td>
</tr>
<tr>
<td>PBA 526 Financial Analysis and Capital Market Research</td>
<td>7</td>
</tr>
<tr>
<td>PBA 525 Options and Futures</td>
<td>7</td>
</tr>
<tr>
<td><strong>Fall semester</strong></td>
<td><strong>30</strong></td>
</tr>
<tr>
<td>PBA 523 Advanced Quantitative Business Methods</td>
<td>6</td>
</tr>
<tr>
<td>PBA 528 Advanced Capital Budgeting</td>
<td>6</td>
</tr>
<tr>
<td>PBA 520 Managerial Economics or another suitable in-depth course</td>
<td>6</td>
</tr>
<tr>
<td>At least twelve (12) ECTS from the following list of courses:</td>
<td></td>
</tr>
<tr>
<td>PBA 524 Financial Modelling</td>
<td>6</td>
</tr>
<tr>
<td>PBA 527 Theory and Methodology in Finance and Accounting</td>
<td>6</td>
</tr>
<tr>
<td>PBA 529 Applications of Neural Networks in Business</td>
<td>6</td>
</tr>
<tr>
<td>PBA 530 Seminar on the Cyprus Economy, Banking and Financial Markets</td>
<td>6</td>
</tr>
<tr>
<td>PBA 531 International Financial Management</td>
<td>6</td>
</tr>
</tbody>
</table>

**Second year**

<table>
<thead>
<tr>
<th>Courses</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBA 532 Financial Optimization and Decision Analysis</td>
<td>6</td>
</tr>
<tr>
<td>PBA 533 Bank Financial Management</td>
<td>6</td>
</tr>
<tr>
<td>PBA 534 Financial Risk Management</td>
<td>6</td>
</tr>
<tr>
<td>PBA 535 Seminar on the Theory of Derivatives</td>
<td>6</td>
</tr>
<tr>
<td>PBA 536 Business Valuation</td>
<td>6</td>
</tr>
<tr>
<td>PBA 537 Theoretical Topics in Finance</td>
<td>6</td>
</tr>
<tr>
<td>PBA 538 Applied Topics in Finance</td>
<td>6</td>
</tr>
<tr>
<td>Other electives / in-depth courses**</td>
<td></td>
</tr>
<tr>
<td><strong>Fall semester</strong></td>
<td><strong>30</strong></td>
</tr>
<tr>
<td>Other elective/in-depth course**</td>
<td>6</td>
</tr>
<tr>
<td>Thesis</td>
<td>24</td>
</tr>
</tbody>
</table>

Note:
- Maximum waiver of one course may be granted according to the student’s prior experience.
- Elective courses are subject to approval by the Director of Postgraduate Studies. Courses are offered with at least four pre-registered students.

During the third semester of the M.Sc. programme, students must complete a 24 ECTS thesis.

Details about the writing of the thesis are outlined in the Admission and Attendance Regulations – Application Requirements on page 16. For more information, students may also consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

**M.Sc. PROGRAMME IN FINANCIAL ECONOMICS**

The M.Sc. Programme in Financial Economics is offered jointly with the Department of Economics. It requires the completion of at least 90 units (ECTS) from the following courses: PBA 521, 522, 525, 526, 528 and 542, ECON 601, 602, 603, 653, and 680; and a thesis. More details can be found on the webpage of the Department.

**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 wish to enhance their leadership abilities and effectiveness in their organisations, and acquire the tools for further professional development.

To graduate, students must complete a total of 90 ECTS units. A total of 53 ECTS units 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 units). A list of courses is available from the Department. Finally, the Applied Business Project (21 ECTS units) focuses on a real-life case within a corporate or government environment, and brings together teams of students with sponsor companies.

**Structure of the Professional MBA Programme**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course Name</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Preparation period (August)</strong></td>
<td>MBA 501 Business Computer Fundamentals*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MBA 502 Introduction to Accounting*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MBA 503 Business Mathematics and Statistics*</td>
<td></td>
</tr>
<tr>
<td><strong>September - October</strong></td>
<td>MBA 561 Leading and Managing Organisations</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MBA 581 Business Economics</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>November - December</strong></td>
<td>MBA 511 Financial Accounting and Reporting</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MBA 546 Business Statistics</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>January - February</strong></td>
<td>MBA 521 Financial Management</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MBA 542 Managing Operations</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>March - April</strong></td>
<td>MBA 541 Methods for Management Decisions</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>MBA 551 Marketing Management</td>
<td>4</td>
</tr>
<tr>
<td><strong>May - June</strong></td>
<td>MBA 512 Managerial Accounting</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>MBA 522 Capital Markets and Investments</td>
<td>4</td>
</tr>
<tr>
<td><strong>Second year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>September - October</strong></td>
<td>MBA 564 Strategic Management</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>MBA 562 Corporate Social Responsibility and Ethics</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>MBA 543 Managing Information Systems</td>
<td>2</td>
</tr>
<tr>
<td><strong>November - December</strong></td>
<td>MBA 563 Entrepreneurship</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MBA 571 Principles of Business Communication</td>
<td>2</td>
</tr>
<tr>
<td><strong>January - February</strong></td>
<td>Elective Courses</td>
<td>8</td>
</tr>
<tr>
<td><strong>March - April</strong></td>
<td>MBA 590 Applied Business Project I</td>
<td>4</td>
</tr>
<tr>
<td><strong>May - August</strong></td>
<td>MBA 591 Applied Business Project II</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Elective Course</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>90</td>
</tr>
</tbody>
</table>

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

**THE MBA PROGRAMME**

The duration of the programme is twelve months and in order to graduate, students must complete a total of at least 90 ECTS units.

Courses equivalent to 53 ECTS units 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 16 ECTS from a list of courses available from the Department, which covers all fields of business administration. The elective courses 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 organisation. 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.

**The MBA Programme Structure**

<table>
<thead>
<tr>
<th>Term</th>
<th>Course Name</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparation period (August)</strong></td>
<td>MBA 501 Business Computer Fundamentals*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MBA 502 Introduction to Accounting*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MBA 503 Business Mathematics and Statistics*</td>
<td></td>
</tr>
<tr>
<td><strong>September-October</strong></td>
<td>MBA 531 Business Economics</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>MBA 544 Business Statistics</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>MBA 561 Leading and Managing Organisations</td>
<td>4</td>
</tr>
<tr>
<td><strong>November-December</strong></td>
<td>MBA 551 Marketing Management</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MBA 563 Entrepreneurship</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MBA 571 Principles of Business Communication</td>
<td>2</td>
</tr>
<tr>
<td><strong>January-February</strong></td>
<td>Elective Courses</td>
<td>8</td>
</tr>
<tr>
<td><strong>March-April</strong></td>
<td>MBA 590 Applied Business Project I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MBA 591 Applied Business Project II</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Elective Course</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>90</td>
</tr>
</tbody>
</table>
The Doctoral Programmes

At present, the doctoral programme offers specializations in Finance, Accounting, and Management Science. The following refers primarily to the programme in Finance.

DOCTORAL PROGRAMME IN FINANCE

Students are expected to complete at least 90 ECTS of coursework for the completion 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 requirements by the end of the fifth semester. Under special circumstances, the Departmental Board may approve extension to the end of the sixth semester.

For more information on the Admission and Attendance Regulations – Application Requirements, see page 16 or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

Coursework

Doctoral students must take at least 28 ECTS of required coursework, at least 24 ECTS of methodology courses, and at least 38 ECTS of electives. The first two semesters of the doctoral programme are similar to those of the M.Sc. programme, as described earlier.
A. Required Courses (28 ECTS)

PBA 521 Financial Theory
PBA 522 Investments
PBA 525 Futures and Options
PBA 526 Financial Analysis and Capital Markets Research

B. Methodology Courses (at least 24 ECTS)

Two Econometrics Courses:
ECON 603 Statistics and Econometrics I
ECON 653 Statistics and Econometrics II

Probability Theory
Graduate MAS 650 Probability Theory I or the two undergraduate MAS 151 Probability-Statistics I and MAS 252 Probability-Statistics II (MAS 252 can be replaced by one graduate econometrics course).

Stochastic Processes
A graduate Stochastic processes course (or the undergraduate MAS 252 Stochastic Processes).

It is also expected that all students will have sufficient knowledge of computer programming (like C/C++, Matlab, SAS, SPSS). Holders of a Master degree in a field similar to the doctoral programme may waive some coursework with the approval of the Department Council. It is expected that all doctoral students (according to their previous graduate studies) complete a minimum of 30-42 ECTS in coursework at the University of Cyprus.

Pre-Dissertation Research
During the first summer of studies, students are expected to prepare a research project under the supervision of a faculty advisor. Students must complete the project by the third semester of studies and submit it for approval to a three-member faculty committee.

Comprehensive Examination
The comprehensive examination (taken at the latest by the end of the fifth semester in the doctoral programme) must cover the areas:
- Major field of study
- Methodology

In line with international practice, this requirement is fulfilled by three-hour exams in each of the following topics:
- Financial Theory and Investments
- Financial Analysis and Capital Market Research
- Futures and Options
- Econometrics

Doctoral Candidacy and Dissertation Requirements
After formal entrance in doctoral candidacy, students are expected to concentrate their efforts on their dissertation research, which will initially result in a dissertation proposal in coordination with their Research Advisor.

The Dissertation Proposal
The dissertation proposal must be defended before a three-member academic committee. The proposal should contain a complete and detailed definition of the problem under investigation, a comprehensive synopsis of the relevant literature and the unanswered research questions, and should provide the relation between the existing literature and the proposed research as well as the expected new contribution.

The Dissertation
The completed dissertation must be original research with significant contribution to the academic literature. The dissertation must be defended before a five-member academic committee, appointed by the Committee of Postgraduate Studies in coordination with the Research Advisor.

For more information about the pre-dissertation research, the comprehensive examination, the doctoral candidacy and dissertation requirements, the dissertation proposal and the dissertation, students may consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department's Secretariat.

Doctoral Candidate's Requirements
Doctoral students must take the Seminar Series (Colloquium) at least twice (PBA 541 and PBA 542). While students take the comprehensive examination, they may register for PBA 890 (15 ECTS). While the doctoral candidates work on the dissertation research, they must complete at least 120 ECTS in four research courses: (PBA 895: 30 ECTS, PBA 896: 30 ECTS, PBA 897: 30 ECTS, and PBA 898: 30 ECTS). There are also the partial research courses PBA 881, PBA 882, PBA 883, PBA 884, PBA 885, PBA 886, PBA 887, and PBA 888 (15 ECTS each) for students who elect to take courses (beyond those required) during the dissertation stages, or PBA 890 (comprehensive exams).
during the first enrollment in a dissertation stage. If after the completion of 120 ECTS of dissertation courses the doctoral dissertation is not completed, students may enroll in writing courses of 30 ECTS (PBA 791, PBA 792, PBA 793, PBA 794) or 15 ECTS (PBA 781, PBA 782, PBA 783, PBA 784, PBA 785, PBA 786, PBA 787, PBA 788).

Sample Programme

<table>
<thead>
<tr>
<th>First year</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>Fall semester</td>
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<tr>
<td>Same as for the Master</td>
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<tr>
<td>Spring semester</td>
<td>30</td>
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<td>Same as for the Master</td>
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<table>
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<th>Second year</th>
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<td>Fall semester</td>
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<td>Elective/in-depth and methodology courses (from the department, econometrics, mathematics, etc.)</td>
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<tr>
<td>Spring semester</td>
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</tr>
<tr>
<td>PBA 890 Comprehensive Examinations</td>
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<td>PBA 881 Research stage</td>
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<tr>
<td>PBA 883 Research stage</td>
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<tr>
<td>Spring semester</td>
<td>30</td>
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<tr>
<td>PBA 884 Research stage</td>
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<td>PBA 885 Research stage</td>
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<th>Fourth year</th>
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<td>Fall semester</td>
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<tr>
<td>PBA 886 Research stage</td>
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<td>PBA 887 Research stage</td>
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<td>Spring semester</td>
<td>30</td>
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<tr>
<td>PBA 888 Research stage</td>
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<tr>
<td>PBA 781 Writing stage</td>
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Postgraduate Finance Course Descriptions

PBA 515 Basic Accounting (2 ECTS)
The scope of the course is to examine the use 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.

PBA 516 Use of Software in Finance (3 ECTS)
Databases and software packages useful to the financial manager/analyst of a private or public enterprise/organisation are introduced. The course is directed towards new Master students. It covers databases (like Compustat/GlobalVantage, Datastream, CRSP, IDES), and software (like Matlab). It is graded with Pass/Fail.

PBA 520 Managerial Economics (6 ECTS)
The course covers a wide variety of topics to facilitate understanding of the wider economic environment of the corporation, from the perspective of the Neoclassical Economic Theory, the Theory of the Firm, and Industrial Organisation. 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 Organisation, elements of Game Theory, Trigger Pricing strategies, etc.

PBA 521 Financial Theory (7 ECTS)
The course presents the theory of Finance Decisions and Corporate Policy. It covers contemporary methods of Capital Budgeting, Utility Theory, Risk and Uncertainty, Mean-Variance Choice, Capital Asset Pricing Models (like CAPM and Zero Beta CAPM), Roll's Critique, and the Arbitrage Pricing Theory (APT), an introduction to Option Pricing with implications for Corporate Policy, the Efficient Markets Hypothesis, Capital Structure and Dividend Policy, Corporate Restructuring, M&As, etc.

PBA 522 Investments (7 ECTS)
The course covers the basic principles of investment analysis and valuation. That is, how to price Financial Securities (such as Bonds, Stocks, Options, and Futures contracts) and how to determine which are undervalued. The emphasis is on Security Analysis and Portfolio Management in a risk-return framework. Security analysis is the attempt to determine whether an individual security is correctly valued in the market (i.e., it is the search for mispriced securities). Portfolio management is the process of efficiently combining securities into a portfolio tailored to the investor's preferences and needs, monitoring that portfolio, and evaluating its performance. The course covers the theory of investments, and provides knowledge of practical importance to anyone interested in becoming an investment professional or a sophisticated private investor.

PBA 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 modelling. In addition to the theoretical coverage of these topics, students practice 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.

**PBA 524 Financial Modelling (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 modelling languages (like GAMS), and spreadsheets.

**PBA 525 Options and Futures (7 ECTS)**

The course studies the pricing and use of Derivative Securities (e.g., Options, Forward/futures contracts, Fixed-income Derivatives and Corporate Liabilities), i.e., financial instruments whose value depends on the price of other basic underlying variables (such as stock prices, indices, foreign currencies, or interest rates). The no-arbitrage pricing principle and its use in pricing forward and futures contracts and in deriving option pricing restrictions are first developed together with the Binomial-tree valuation approach and the Black-Scholes option-pricing model. Then, various extensions of the theoretical option models (adjusted for dividends and early exercise) are presented and various applications are provided, in (1) the pricing of options on Stock Indices, Currencies, and Futures; (2) Risk Management (e.g., hedging stock market, foreign currency and interest-rate risk exposure); (3) the pricing of options embedded in Corporate Securities (e.g., equity as an option on firm value, Callable Bonds, Warrants and Convertible Bonds); (4) the pricing of Fixed-income (interest-rate) derivatives (introduction only); and (5) the valuation of options embedded in real investment decisions.

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

The major objective of this course is to present a comprehensive analysis of financial information as an aid to decision making. While financial analysis serves many and varied purposes, its major usefulness is in making investing, lending and managerial decisions. Valid and permanently assembled data may lead to good decisions; incomplete or distorted data will usually lead to bad decisions. Investing and lending decisions require the application of thorough analysis to carefully evaluated data. They require, moreover, the ability to forecast, to foresee. Sound information is obtained by an understanding of the data from which it is derived as well as by the application. Foresight, which is essential to the assessment of opportunity and risk, is also rooted in understanding: understanding of the elements comprising the data and the factors that can change them. The emphasis of this course is on: i) business analysis tools such as business strategy analysis, accounting and financial analysis, prospective analysis, i.e., forecasting and valuation; ii) applications, i.e., credit analysis and bankruptcy prediction, security analysis, corporate financing issues such as dividend policy and capital structure, mergers and acquisitions, and management communication; iii) international financial analysis; iv) contemporary issues in financial analysis. Special emphasis will also be placed on contemporary financial analysis issues that affect the Cyprus Stock Exchange and International Stock Exchanges.

**PBA 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.

**PBA 528 Advanced Methods of Capital Budgeting (6 ECTS)**

The course initially covers the traditional methods of Capital Budgeting and their deficiencies. Then it focuses on issues of Investment Valuation with Flexibility and Optimal Exercise of Embedded Options for optimal organisational decisions under uncertainty and constant change. It places emphasis on the use of the Real Options methodology in both tactical and strategic decisions. The Stochastic Processes that describe uncertainty are introduced, and the real options methodology is applied through the use of Monte Carlo Simulation, Lattice methods, and other analytic and numerical solution techniques.

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

This course covers 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 practice the theory through a research project in Finance or Accounting.

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

In the seminar a wide range of topics relating 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 into the European Union. These developments prescribe the prospects and challenges of the economy and the financial system of Cyprus.

**PBA 531 International Financial Management (6 ECTS)**

Managing an international business or a business exposed to global competition requires the understanding of international financial instruments, markets, and institutions. The topics covered include: globalization and the multinational firm; international monetary system, the market for foreign exchange, international parity relationships and forecasting foreign exchange rates; international capital markets, including bond
and equity markets; futures, options and swaps on foreign exchange and interest rates; managing and hedging foreign exchange and interest rate risk; international portfolio investments; global mutual funds and hedge funds; emerging market finance; capital market integration and liberalization, and the financial and real effects of market integration; financial crises and contagion.

PBA 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. Special emphasis is placed on the solution of problems with the use of computers.

PBA 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 the study of the existing banking environment, bank structure and problems, the course concentrates on the measurement and management of interest rate, credit, and currency risks. The course also studies the measurement and evaluation of bank performance, basic instruments and techniques, asset/liability management, new financial strategies, and integrated decisions for bank management.

PBA 534 Financial Risk Management (6 ECTS)
The aim of this course is to illustrate the use of financial theory and applied statistics in measuring and managing risks that multinational corporations and financial institutions are currently facing. 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.

PBA 535 Seminar on Derivatives (6 ECTS)
The course covers advanced topics in financial theory with emphasis on 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.

PBA 536 Business Valuation (6 ECTS)
The scope of the course is to cover the foundations of the different approaches and methodologies of business valuation. The material covered will include: the Income Approach; the Market Approach; the Asset-based Approach; the Real Options Approach; the needed research in business and industry data; Financial Statement Analysis & Ratio Analysis; Control and Acquisition Premium; Lack of Control Discounts, Illiquidity and Lack of Marketability Discounts; valuation of Partnerships and Limited Liability Companies; valuation of Intangible Assets.

PBA 537 Theoretical Topics in Finance (6 ECTS)
The course covers advanced theoretical topics in financial theory. Contents may differ according to the instructor.

PBA 538 Applied Topics in Finance (6 ECTS)
The course covers special and applied topics in finance. Contents may differ according to the instructor.

PBA 541-546 Seminar Series - Colloquium (3 ECTS)
The course covers special and applied topics in finance. Contents may differ according to the instructor.

PBA 547 Market Making and Securities Trading (6 ECTS)
The course introduces doctoral students (or advanced Master students) to contemporary research topics, with the attendance and active participation in presentations of original research, and presentation of critique and analysis of selected research. It is graded with Pass/Fail.

MBA Course Descriptions

Preparatory Courses

MBA 501 Business Computer Fundamentals (1 ECTS)
The course teaches basic skills in the use of common software tools for data analysis, electronic communications, presentations, access to information resources (financial and bibliographic databases) on electronic networks. The main focus is on the use of electronic spreadsheets for data analysis to support quantitative decisions.

MBA 502 Introduction to Accounting (1 ECTS)
This course is designed to familiarize students with basic accounting concepts. The course will introduce the basic accounts, the accounting equation and the financial statements. We will then look at the effect of numerous transactions on different accounts, present and discuss the advantages and limitations of the accrual basis of accounting and the resulting year-end adjusting entries. The course will conclude by introducing and applying the above to merchandising companies.
MBA 503 Business Mathematics and Statistics (1 ECTS)
The course reviews fundamental mathematical concepts that are needed in subsequent MBA courses. Topics covered include basic calculus (functions, differentiation, 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) organisations 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 the student 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 emphasis of this course will be: i) the major methods that users need to employ to analyze financial information such as ratio analysis, prospective analysis, i.e., forecasting and valuation; ii) on 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. Emphasis is placed throughout the course 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 decision-making. 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 is concerned with understanding the functioning of capital markets as well as the pricing of various financial instruments and selecting and evaluating investment strategies whose risk/return characteristics suit investor needs. 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 purpose of the course is to provide a broad overview of the field of derivatives to give students the necessary skills 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. In order to provide a useful treatment of these topics 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 seeks to provide students with 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 firms can serve for managing 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 increase their understanding of economics and learn a variety of techniques that will allow them to solve business problems relating, among others, 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, with applications 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 organisation. 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 organisation 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 with the use of 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 the 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 in order to achieve 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 composed of two related systems, the management system, and the technical system. This course integrates these systems by presenting state-of-art approaches in 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 E-Commerce (4 ECTS)
The course examines technical, organisational and managerial issues associated with the adoption of E-Business and E-Commerce systems including important applications for enterprise resource planning, supply chain management and customer relationship management. The focus is on appropriate strategies to capitalize on the potential of electronic networks for the promotion and delivery of products and services, and the establishment of strategic alliances. B2C and B2B business models are examined.

MBA 549 Project Management (4 ECTS)
Project-based management is becoming the new general management in the contemporary business world since nearly all managers are involved in projects. The course presents a systematic approach in managing projects. Topics covered include: project definition, managing time and cost in projects, project organisation, resources in projects, managing quality in projects, project initiation and close-out, risk management, performance and evaluation, and project management software.

MBA 551 Marketing Management (4 ECTS)
This course provides an overall view of marketing's role in contemporary organisations and explores its relationship to the other business functions. It presents the marketing planning process and shows that effective marketing decision making builds on a thorough analysis and understanding of the marketing environment. It emphasizes the determination of the organisation'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 fundamental understanding of marketing research methods. The course emphasizes the critical role of systematic information gathering in providing sound decision guidance. 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 aims to impart the necessary knowledge and skills that will enable managers to effectively design and implement marketing plans in targeted foreign markets. Topics covered include the analysis of the international marketing environment; foreign market selection, targeting and positioning; foreign market entry modes; international marketing mix strategy; and the organisation 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 relating to the establishment of advertising objectives, the development of the advertising strategy, the advertising creative process, the advertising budget, media planning and the evaluation of advertising effectiveness. However, 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 is also emphasized.

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 in analyzing market opportunities, and presents the new 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 organisations, analyzes the key elements of the sales
strategy, and shows how an effective sales strategy supports the overall marketing effort. An extensive presentation of the Sales Management process is provided, covering issues relating to the design of sales organisation structure, the recruitment, selection, training, motivation, control and compensation of salespeople, and the assessment of the sales organisations effectiveness and individual salespeople's performance.

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

Contemporary marketing thought emphasizes the critical importance of adopting 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 aims at building the necessary knowledge that will facilitate managers in predicting buyers' response to marketing actions and in developing effective marketing strategies and tactics.

**MBA 561 Leading and Managing Organisations (4 ECTS)**

This course is designed to increase the effectiveness of students as managers within any organisational context by introducing them to a framework for understanding the way organisations 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 organisations – 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 the analysis of 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 of the examples in class will be drawn from new venture formation, we will also draw on cases from entrepreneurship, social and non-profit entrepreneurship. The class sessions will be devoted to the process of conceptualizing, developing, and managing successful new ventures, ideas or products towards the creation of 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 upon material from core topics such as economics, organisational processes, operations and marketing.

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

The objective of this course is to provide an overview of Human Resource Management (HRM) as an integral function of any organisation. It is focused on the planning and application of all human resource management activities, functional and strategic, with special emphasis on the importance of human resources as a source of organisational 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 between the leaders, the followers and the situation as a model for studying the leadership process and 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 change skills throughout the organisation. This course will arm students with practical skills and hands-on tools for planning and guiding systemic change (strategic shifts, business turnarounds, organisational transformations) and managing specific change projects (innovations and new ventures).

**MBA 568 Negotiations (2 ECTS)**

In a constantly changing business environment, successful negotiation is a must for business leaders. This course focuses on developing negotiation skills and the ability 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 Creativity and Innovation (2 ECTS)**

The course focuses on the challenges inherent in attempting to take advantage of both incremental or routine innovation and more radical or revolutionary changes in products and processes. It highlights the importance of innovation to both new ventures and to large established firms and explores the organisational, economic and strategic problems that must be tackled to ensure innovation is a long-term source of competitive advantage.

**MBA 570 International Business (2 ECTS)**

Living with change and uncertainty is an everyday fact of life for many global enterprises, especially for those in knowledge-intensive industries. This course includes topics such as how to succeed by becoming flexible in international markets; how to strategize, organise, and lead in the dynamic world of international business; and how to integrate international mergers and acquisitions, executing major change initiatives with multi-cultural knowledge workers.
MBA 571 Multi-cultural Management (2 ECTS)

This course examines the role of culture – both national and organisational – in management. It examines the meaning of culture as it applies to management practices, describes the role of cultural values and their impact on behaviour, identifies the major dimensions of culture relevant to work settings and discusses cross-cultural differences and similarities as they pertain to local and international management. Emphasis is also placed on managing diversity, as it pertains to gender, physical ability, parental status, etc.

MBA 574 Principles of Business Communication (4 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 in a business setting. Emphasis will be placed on developing a business communication plan, correctly identifying one’s audience and the importance of communication in regard to company image. The elements of successful internal and within-group communication are also examined.

MBA 590 Applied Business Project I (4 ECTS)

The applied business project is considered the epitome of the programme. It attempts to combine knowledge and tools acquired during the Programme with practice. During the first part of the applied business project, students are expected to develop their research questions identified through an exploratory study. Upon completion of the first part of the project, it is expected that students will have developed a specific course of action to examine the issues of the collaborating organisation that need to be resolved. The applied business project is completed by groups of students under the supervision of a faculty member.

MBA 591 Applied Business Project II (17 ECTS)

During the second part of the applied business project, students implement the action plan developed during the initial stage. Teams collect and analyze information from the organisation and propose applicable solutions. During this part, teams complete the writing of their applied business project and present their results to a committee.

Research Interests of the Academic Staff

- **Christakis Charalambous**  
  Professor  
  Mathematical Programming, Artificial Neural Networks, Large-scale Optimization, and Signal Processing.

- **Andreas Charitou**  
  Professor  

- **George Drymiotes**  
  Assistant Professor  
  Corporate Governance, Managerial Incentives, Conflicts of Interest, the Role of the Board of Directors and its Interactions with Shareholders and Management.

- **George Hadjinicolos**  
  Associate Professor  
  International Manufacturing, the Marketing-Production Interface, and New Product Development.

- **Irene Karamanou-Makri**  
  Assistant Professor  
  International Accounting, Analyst Forecasts, Earnings Management, International Capital Markets and the Relevance of Accounting Information.

- **George Kassinis**  
  Associate Professor  
  Business Policy, Environmental Management, Technology Policy, and Regional Development.

- **Erricos John Kontoghiorghes**  
  Associate Professor  

- **Leonidas C. Leonidou**  
  Professor  
  International Marketing/Purchasing, Relationship Marketing, Marketing in Emerging Economies, and Strategic Marketing.

- **Spiros H. Martzoukos**  
  Associate Professor  
  Analytic and Numerical Valuation of Derivatives, Theory and Methods of Real Options, Investments with Learning, Optimal Portfolio Construction.

- **Alexandros Michaelides**  
  Professor  
  Asset Pricing, Savings, Portfolio Choice, Household Finance.

- **Andreas Milidonis**  
  Lecturer  
  Bond Pricing, Credit Risk, Markov Switching Processes, Actuarial Science.

- **Nicos Nicolaou**  
  Lecturer  
  Entrepreneurship, Behavioral Genetics, University Spinouts, Social Network Theory, Innovation Management.

- **George Nishiotis**  
  Assistant Professor  
- **Alexia Panayiotou**  
  **Lecturer**  
  Social constructionism and discursive/cultural psychology; language and organisations (linguistic production of organisational identity and the use of metaphors in organisational science); emotions and organisations; decision-making, leadership and culture; and gender issues.

- **Andreas Soteriou**  
  **Associate Professor**  
  Service Management, Quality and Service Quality Improvement, Customer Satisfaction, Service Efficiency and Effectiveness.

- **Eleni Stavrou-Costea**  
  **Associate Professor**  

- **Marios Theodosiou**  
  **Assistant Professor**  

- **Lenos Trigeorgis**  
  **Professor**  
  Corporate Finance, Capital Structure, Options and Futures, Capital Budgeting, Competition and Strategy.

- **Haridimos Tsoukas**  
  **Professor**  
  Knowledge-based Incentives in Organizations, Organizational Learning, Management of Organizational Change and Social Reforms, Practical Reason in Management Studies, Epistemological Issues in Organization Theory and Management Studies.

- **Nikos Vafeas**  
  **Professor**  
  Financial Accounting, Corporate Governance and Executive Compensation.

- **Hercules Vladimirou**  
  **Associate 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.

- **Stavros A. Zenios**  
  **Professor**  
Introduction
The Centre for Banking and Financial Research – originally the HERMES Centre on Computational Finance and Economics – was established in 1999 as an independent research unit within the Faculty of Economics and Management. The Centre undertakes high quality research in the fields of finance, economics and their applications, and has received international recognition for its research. In 2000 it was awarded the status of a European Centre of Excellence under the aegis of the EU Fifth Framework Programme.

The Centre involves faculty from the Departments of Public and Business Administration, Economics, and Mathematics and Statistics. The faculty develop projects for and in conjunction with banks, insurance firms, institutional investors, and are also involved in networking and training activities (conferences, workshops, exchanges of staff with other research centres, etc.).

Goals
The Centre has set the following objectives:
• Basic and applied research targeting important issues such as risk management, efficiency and quality in financial services, effective decision support for asset and liability management under uncertainty, utilization of derivatives in portfolios, valuation of complex investment projects, analysis of household portfolios
• Scientific and scholarly contributions to challenging practical problems through the development, implementation and empirical validation of advanced quantitative models in the areas of finance, economics, operations research, statistics and econometrics, and exploitation of modern computing capabilities
• Participation in international networks and joint research projects with European institutions to further broaden and strengthen its network of international collaborations
• Attraction of research support from international and domestic organisations through competitive proposals
• Creation of an environment conducive to inter-disciplinary cooperation and promotion of joint research projects
• Dissemination of the Centre's accomplishments and research results to the professional and academic community through publications, conferences, staff exchanges, participation in training networks, etc.
• Upgrading its infrastructure with modern computing hardware, specialized software and financial databases to support empirical studies on important financial planning problems

The Centre also aims to assist domestic institutions face the challenges arising from financial liberalization, helping to improve their effectiveness, profitability and competitiveness in the international arena with:
• Technology transfer through training workshops and dissemination of the Centre's research results
• Joint pursuit, with local private and public institutions, of applied projects on the development or adaptation of decision support tools for practical problems (e.g., risk measurement, assessment of credit risk exposures, classification of debtors, management of asset and liability portfolios, assessment of efficiency in banking operations, determination of household portfolio compositions, etc.)
• Collection of important databases on domestic economic and financial activities

The Centre aims to assist domestic institutions incorporate effective decision support tools in their performance-monitoring and decision-making processes. Such tools are necessitated by increasing competitive pressures due to the liberalization of the financial sector, and the need to comply with international standards (e.g., the Basel Accord governing banking operations, especially for risk management).

Research Activities
The Centre pursues a broad research agenda on strategic, tactical and operational financial decision problems for both the supply side (financial institutions) and the demand side (households and investors). Emphasis is placed on the challenges created for both sides by globalization and innovations of the financial markets, and on the peculiarities of the local economy as it strives to achieve competitiveness in the European economy. Theoretical modelling, empirical data-driven research and
the extensive use of computations are the cornerstones of the disciplinary approaches of the Centre's research, which brings together faculty and graduate students from finance, economics, accounting, management science, mathematics, statistics and computer science. Currently, the research activities of the Centre cover the following areas.

**Risk Management and Portfolio Management**

The research of this sector focuses on the development, implementation and empirical validation of mathematical models for optimal portfolio management and effective control of risk exposures. The models are based on simulations and stochastic optimization programs for planning under uncertainty and require extensive computations. Uncertainty is prevalent in financial applications and must be completely considered in financial decision-making. This has become more pressing in order to avoid financial failures and also to comply with increasingly stringent risk management regulations. Many investments are exposed to multiple risk factors that have concerted effects on the value of portfolios. This dictates the use of sophisticated simulation and optimization frameworks that can account for the combined effects of multiple risk factors. We develop appropriate simulation and optimization models that account for the joint effects of multiple risk factors on various types of assets and liabilities (e.g., corporate bonds, bank loans, credit sensitive securities, international indices, etc.). Our recent studies concern innovative applications of stochastic programming models for risk management and optimization of performance in:

- portfolios that contain credit sensitive securities (e.g., corporate bonds)
- international investment portfolios that are exposed to market risks as well as currency risks from fluctuations in exchange rates
- effective incorporation of derivatives in portfolios to hedge financial risks
- asset and liability portfolios of pension funds and insurance products with guarantees
- computer-aided design of financial instruments (e.g., callable bonds)

**Efficiency, Profitability and Quality of Financial Services**

The research in this sector focuses on improving the efficiency of financial institutions, the quality of their services and the effectiveness of their risk management practices. Recent activities include:

- Identification and empirical assessment of the effects of quality on planning the delivery of financial services, and the development of methods for measuring such effects.
- Implementation of a "Customer Satisfaction Barometer" for the banking sectors in Greece and Cyprus. This barometer employs a theoretical framework to: (a) compile an extensive collection of pertinent data to support empirical studies; (b) determine the primary criteria of quality of financial services in the banking sector; (c) develop a methodology for the systematic application of a customer satisfaction barometer, and investigate the potential of such a barometer towards improving the efficiency, effectiveness and quality of banking services; (d) empirically validate fundamental theoretical relations between quality and profitability measures.
- Study of current risk and quality management practices in the financial sector and investigation of their effects on efficiency and effectiveness of financial institutions. Faculty of the Centre have pioneered a pan-European survey on the performance of financial institutions in order to develop an extensive database for use by researchers studying the drivers of performance. Multivariate statistical analyses are applied to investigate the effects of quality and risk management practices on financial performance, so as to guide decisions for performance improvements that are critical for maintaining competitiveness.

**Modern Capital Budgeting and Derivatives Pricing**

Modern methods are used for capital budgeting decisions under uncertainty, replacing the traditional net present value approach. These methods are based on real options, game theory and stochastic processes, and account for inherent flexibilities in making long-term, multistage decisions, thus providing an improved valuation framework. This sector studies the application of option pricing methods to the valuation of flexibility in multistage decisions, optimal timing of investment implementations,
optimal choices of technology, resources and products under incomplete information and competitive actions, etc. These methods provide decision support tools for managerial and strategic investment decisions in research and development projects, new product developments, etc. The sector also studies new procedures for the design and valuation of complex derivatives on stocks, bonds, indices, currencies, and credit instruments. The valuation methods are empirically assessed through extensive numerical computations.

Conferences and Training Programmes
The Centre is particularly active in organizing international conferences. Professor Harry Markowitz (Nobel laureate in Economics, 1990) was the plenary speaker at the Centre's inaugural conference on "Asset and Liability Management: From Institutions to Households" in May 2001. The Centre organised several international conferences and workshops in recent years.

Research Funding
The Centre has been successful in attracting funds from competitive research programs of the European Union to support several of its research and training activities. In the context of externally funded programmes the Centre participates in staff exchanges with European universities and research institutes, runs training programs for young researchers, and organises workshops and seminars. Research programmes have also been funded by the Cyprus Research Promotion Foundation, the University of Cyprus, the Central Bank of Cyprus, the Cyprus Development Bank, and other financial institutions.

Collaborations
The Centre maintains close collaborative relations with research groups at various universities in Europe and North America. For example, at the University of Cambridge, Imperial College, City University and Brunel University in the UK; at the Universities of Rome, Bergamo and Palermo in Italy; at the University of Vienna in Austria; at the Technical University of Denmark; at ETH-Zurich in Switzerland; at Goethe University of Frankfurt in Germany; as well as at the University of Pennsylvania in the USA. Some of the Centre's research programmes were carried out in collaboration with research teams from these institutions.

The Centre has collaborations with other international organisations, such as Prometeia Calcolo S.r.l. (Italy), Algorithmics Inc. (Canada), GAMS Development Corporation (USA and Germany), etc. The Centre also collaborates with banks, financial, insurance and consulting firms in Cyprus.

Infrastructure – Facilities
The Centre's computer laboratory is equipped with a network of modern workstations and personal computers that provide access to a collection of specialized software, and extensive financial and bibliographic databases that support empirical and computational research.

Organisation
The Centre for Banking and Financial Research operates as an autonomous unit in the School of Economics and Management. It is managed by its Director and its Academic Council. The Director is selected from among the senior faculty of the School of Economics and Management and is responsible for coordinating the activities of the research groups, promoting collaborative group projects and managing administrative matters. The Academic Council consists of the principal investigators of research projects; oversees organisational matters and promotes external collaborations.

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FACULTY OF ENGINEERING

- Department of Architecture 190
- Department of Civil and Environmental Engineering 196
- Department of Electrical and Computer Engineering 210
- Department of Mechanical and Manufacturing Engineering 220
The aim of the graduate programme of 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 perform successfully worldwide but who also have the knowledge and sensitivity to respond and influence positively the built environment of Europe. In support of this the Programme 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 Programme of Architecture admits graduate students each year at the Doctoral level (Ph.D. in Architecture).

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

- Architectural Theory and History
- Architectural Communication Media
- Architectural Technology
- Urban Design

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 Programme 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 Programme of Architecture within the announced time limits. For more information on the application and registration procedures, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s 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 Programme 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 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 acceptable only after prior approval by the graduate committee of the Programme 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 Programme 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 take place 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 Programme of Architecture. Students must demonstrate that they have a sound understanding of the dissertation topic, the relevant litera-
ture, the methodology to be employed, the issues to be addressed, and the work done on the topic. The proposal must be made at least one year before the intended date of defence.

**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, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s 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, 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 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 Experimental Art and Architecture
- 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 The Mediterranean City
- 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

### Description of Courses

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 ar-
chitecture. 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 Ecology**

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

This course analyzes the history-theory of environmental consciousness in architecture, situating the topic within 20th-century architectural theory and praxis. It covers the social visions and technological experiments that shaped architecture, and examines how these were intertwined with environmental history and the history of science and technology. The course also examines more recent notions such as eco-development, green architecture and sustainability, and their impact on current architectural debates.

**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. 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 Experimental Art and Architecture**

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

Examination of what lies beyond the generally accepted limits in contemporary art and architecture. Attempt at the redefinition of art and architecture in innovating ways through projects which ask for theoretical and material constructs. Students are free to choose the topic and are expected to formulate their proposal following research of what they see as related precedents in either field.

**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)*

Study of environmental attributes (thermal, luminous, air quality, acoustic) and their physical dimensions for the development of energy and resource-efficient buildings. Design of climatically advanced buildings based on energy conservation and/or renewal mechanisms and improvement of environmental control systems in buildings – heating, ventilation, lighting, glazing and technical control systems.

**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 The Mediterranean City**

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

Exploration of histories, characteristics, topographies and urban fabrics of selected port-cities along the Mediterranean. Analysis of the role that location played in the formation of past and present urban identities of considered examples. The goal is to examine the character of urban locus at the interface between land and sea, and to understand its influence on the development of historic and contemporary culture.

**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 student needs or requests and the educational and research interests of the faculty.

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**  
  Assistant 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 Kontovourakis**  
  Lecturer
  
  His research interests lie in human movement behaviour, Computer modelling and the built environment, Pedestrian movement behaviour and computer modelling, Pedestrian dynamics and circulation design, Way-finding and emergency evacuation in buildings, Design of circulation systems in passengers transportation buildings, and Digital design and tectonics, Computer-aided design and digital fabrication, Parametric-associative design, Computer-generated design, Generative processes and emergence in design, Biological analogy and architectural design, Theory of design process and the use of computers, Digital design and structural analysis.

- **Maria Philokyprou**  
  Lecturer
  
  Her main research interests lie in the History of Architecture in Cyprus and particularly in the analysis of the vernacular architecture of the island in relation to the Mediterranean Area. She is also interested in sustainable development with regard to building materials and bioclimatic design principles of vernacular architecture, revitalization of building environment, issues regarding the embodiment of new structures in sensitive historic centers, traditional building technology and design of new environmentally “friendly” materials.

- **Marios C. Phocas**  
  Associate Professor
  
  His teaching and research activities cover the areas of integrated architectural design, building technology and earthquake resistant structural building design, structural control and earthquake isolation.

  - **Panayiota I. Pyla**  
    Assistant 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
    
    Andreas Savvides 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**  
    Assistant Professor
    
    His research interests are concentrated on the horizontal approach between architecture and urbanism, and between research and practice:
    - Process and methodology of architectural design in an urban-architectural scale. The relationship between analysis and design in a project based action.
    - Documentation of driving forces that allow a horizontal analysis of relationships between building and the city; the issue of translocal.
    - Alternative ways of mapping the city: relationships between space and time within the everyday life of the city; mobility issues and migration.

Contact details

**Graduate Studies Coordinator**
Marios C. Phocas  
Tel.: 22892969  
e-mail: mcphocas@ucy.ac.cy

**Secretariat**
Stavroulla Photiou - Rossi  
Tel.: 22892980  
Fax: 22660834  
e-mail: architecture@ucy.ac.cy

http://www.ucy.ac.cy/arch-en
Civil and 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.

Research Areas

The major research areas of the CEE Department are the following:

- Materials and Mechanics
- Structural and Earthquake Engineering
- Construction Management
- Computer-Aided Civil Engineering
- Geomechanics
- Transportation Systems
- Management of Water Resources
- Environmental Fluid Mechanics
- Solid and Liquid Waste Management
- Environmental Pollution Control
- Environmental Management Systems

Financial Support

The CEE Department supports several graduate students through scholarships, teaching assistantships, and research grants.
Master Programmes (M.Sc., M.Eng.)

Graduate students at the Master level have the option to choose between two tracks of studies, leading to either a Master of Science degree (M.Sc.) or to a Master of Engineering degree (M.Eng.). 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.

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.

Admission to the Master of Science Programme

Applicants to the M.Sc. programme 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 programme.

Candidates must submit an application to the Department of Civil and Environmental Engineering within the announced time limits. For details about the application procedure and the evaluation of the candidates, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

In addition to the general admission requirements, the Department requests a statement of purpose detailing the applicant’s motivation, goals and objectives, an intended focus area and expectations from the graduate studies, other supportive documentation as evidence of 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 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

Programme of Studies

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 and research work beyond the Bachelors degree, distributed as follows:

Coursework 56 ECTS
- Graduate courses in CEE related to the M.Sc. programme (32 ECTS)
- Graduate courses in/outside CEE programme (24 ECTS)
- CEE 610 Graduate Seminar (0 ECTS)

Thesis Research (CEE 680) 54 ECTS

TOTAL 110 ECTS

All courses in the first category (graduate courses in CEE, related to the M.Sc.) must be taken from the list of courses in the relevant field of studies (Civil Engineering or
Environmental Engineering), as these are outlined in the table of departmental courses.

The course Independent Study (CEE 650 or CEE 651) falls under the second category of courses (graduate courses in/outside CEE field) and must have different research topic than the M.Sc. thesis. Students are allowed a maximum of 8 ECTS for the Independent Study course. Course selection outside the CEE department is allowed only upon approval by the student’s academic advisor and the chairman of the CEE Graduate Studies Committee.

Students who have successfully completed graduate coursework as part of another graduate degree may transfer up to 16 ECTS towards their graduate degree, on condition that the courses they wish to transfer were not used towards the completion of another degree.

**Master of Science (M.Sc.) Thesis**

The M.Sc. degree requires the successful completion of an original research study and associated thesis. Students select a research topic in consultation with their advisor. Students must submit a thesis proposal to the academic advisor at least 2 semesters before the intended date of thesis defence. Students must submit their thesis to the Defense Committee appointed at least two weeks prior to the intended date of graduation. 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 in or outside the University.

For more information on the procedure of submitting and defending the thesis, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s 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 2nd and 3rd academic semesters.

<table>
<thead>
<tr>
<th><strong>1st semester (fall)</strong></th>
<th><strong>ECTS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>3 graduate courses (3x8)</td>
<td>24</td>
</tr>
<tr>
<td>CEE 680 M.Sc. Research</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>2nd semester (spring)</strong></th>
<th><strong>ECTS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>2 graduate courses (2x8)</td>
<td>16</td>
</tr>
<tr>
<td>CEE 680 M.Sc. Research</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

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<tr>
<th><strong>Summer</strong></th>
<th><strong>ECTS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE 680 M.Sc. Research</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>3rd semester (fall)</strong></th>
<th><strong>ECTS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>2 graduate courses (2x8)</td>
<td>16</td>
</tr>
<tr>
<td>CEE 610 Graduate Seminar</td>
<td>0</td>
</tr>
<tr>
<td>CEE 680 M.Sc. Research</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

**MASTER OF ENGINEERING DEGREE (M.Eng.)**

The degree of Master of Engineering (M.Eng.) in Civil Engineering, 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.

The programme is structured as follows:

**Coursework**

- Graduate courses in CEE related to the M.Eng. programme (48 ECTS)
- Graduate courses in/outside CEE programme (32 ECTS)
- CEE 610 Graduate Seminar (0 ECTS)

**Research Project (CEE 689)**

<table>
<thead>
<tr>
<th><strong>ECTS</strong></th>
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<tbody>
<tr>
<td>10</td>
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</table>

**TOTAL**

<table>
<thead>
<tr>
<th><strong>ECTS</strong></th>
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<tbody>
<tr>
<td>90</td>
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</tbody>
</table>

All courses in the first course category (graduate courses in CEE, related to the M.Eng. programme) must be taken from the list of courses relevant to the degree sought (civil engineering, or environmental engineering), as listed in the department’s course categories.
The course Independent Research (CEE 650 or CEE 651) does not count towards fulfillment of the required courses. Courses outside the CEE department may be selected, but only with the approval of the student's academic advisor and the chairman of the department’s Graduate Studies Committee.

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, provided that students undertake their research project during the summer months between the 2nd and 3rd academic semesters.

<table>
<thead>
<tr>
<th>ECTS</th>
<th>1st semester (fall)</th>
<th>2nd semester (spring)</th>
<th>3rd semester (fall)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 graduate courses (4x8)</td>
<td>3 graduate courses (3x8)</td>
<td>3 graduate courses (3x8)</td>
</tr>
<tr>
<td>32</td>
<td>Total</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>CEE 689 Research Project</td>
<td></td>
<td>CEE 689 Research Project</td>
</tr>
<tr>
<td>4</td>
<td>Total</td>
<td>4</td>
<td>Total</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>6</td>
<td>30</td>
</tr>
</tbody>
</table>

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, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s 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 successful completion of at least 240 ECTS, through a combination of graduate courses 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:

Coursework 80 ECTS
– Graduate courses in CEE related to the Ph.D. programme (48 ECTS)
– Graduate courses in/outside CEE programme (32 ECTS)
– CEE 610 Graduate Seminar (0 ECTS)

Thesis Research (CEE 690) 160 ECTS

TOTAL 240 ECTS

All courses in the first category (graduate courses in CEE, related to the Ph.D. programme) must be taken from the list of courses relevant to the degree sought (civil engineering or environmental engineering), as listed in the department’s course categories. The course Independent Research (CEE 650 or CEE 651) does not count towards fulfillment of the required courses, and
must be differentiated from the Ph.D. thesis research. A maximum of 8 ECTS of Independent Research may be credited towards the Ph.D. degree. Courses outside the CEE department may be selected with the approval of the student's academic advisor and the chairman of the department's Graduate Studies Committee.

Students who have joined the doctoral programme after successfully completing a relevant M.Sc. programme may be credited with a maximum of 56 ECTS based on graduate courses which they have successfully completed, and which may count towards fulfillment of the required 80-ECTS coursework. The maximum number of ECTS that can be credited to students with a graduate degree in other fields of study is 32. The transfer of ECTS is subject to the approval of the Departmental Board based on recommendations by the CEE Committee of Graduate Studies.

Students should select, in consultation with their advisors, the courses that will help them in the completion of their Ph.D. thesis. Graduate coursework outside the CEE department may be accepted subject to prior approval from the Department's Graduate Studies Committee and upon an application by the student signed by his/her advisor.

Comprehensive Examination
Admission to candidacy for the Ph.D. programme is granted when the student has satisfactorily passed a written comprehensive examination that evaluates fundamental ability and knowledge in civil or environmental engineering, as well as specialized knowledge and understanding of the intended research area.

The comprehensive examination will cover three areas of study with questions set by at least three faculty members. Scoring will be equally weighted for the three areas. The comprehensive examination lasts four hours and a total score of at least 60% is required.

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 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 written proposal must be delivered to the candidate's doctoral examination committee and a representative of the Department's Graduate Studies Committee at least two weeks before the date of examination. The oral presentation is given before a three-member Dissertation Committee and the graduate committee representative.

Doctoral Dissertation
The doctoral degree requires the successful completion of original research work and a thesis. The doctoral candidate selects a research topic in collaboration with his/her academic advisor.

For further information on the doctoral thesis see the Admission and Attendance Regulations – Application Requirements on page 16, or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department's Secretariat.

The doctoral dissertation must address current and valid scientific and/or technical issue(s) primarily through 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 also 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 also must 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 scholar 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 research during an oral dissertation defence that is administered by an Examining Committee, which has at least five members.

A thesis defence process consists of three stages: (a) a public 45-60 minute presentation of the doctoral research work by the candidate, and a 30-minute public discussion, (b) a discussion on the thesis work with the examination committee, and (c) a concluding closed session of the examination committee in which doctoral work is assessed.

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, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

Graduate Level Courses

Categories of Graduate 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.

<table>
<thead>
<tr>
<th>Civil Engineering</th>
<th>Environmental Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE 500 Engineering Applications with Software Development</td>
<td>CEE 500 Engineering Applications with Software Development</td>
</tr>
<tr>
<td>CEE 501 Computer-Aided Civil Engineering</td>
<td>CEE 512 Risk Analysis in Civil and Environmental Engineering</td>
</tr>
<tr>
<td>CEE 510 Advanced Building Technology</td>
<td>CEE 553 Engineering Geology and Rock Mechanics</td>
</tr>
<tr>
<td>CEE 511 Construction Management and Engineering</td>
<td>CEE 570 Water resources management</td>
</tr>
<tr>
<td>CEE 512 Risk Analysis in Civil and Environmental Engineering</td>
<td>CEE 571 Computational Hydraulics</td>
</tr>
<tr>
<td>CEE 513 Specifications and Conditions of Construction Contracts</td>
<td>CEE 572 Groundwater Hydrology</td>
</tr>
<tr>
<td>CEE 515 Advanced Topics in Construction Management</td>
<td>CEE 573 Design of Hydraulic Systems</td>
</tr>
<tr>
<td>CEE 520 Advanced Structural Analysis</td>
<td>CEE 575 Energy Efficiency of Buildings</td>
</tr>
<tr>
<td>CEE 521 Structural Dynamics and Earthquake Engineering</td>
<td>CEE 576 Transport Processes</td>
</tr>
<tr>
<td>CEE 523 Passive and Active Control of Structures</td>
<td>CEE 579 Coastal and Maritime Engineering</td>
</tr>
<tr>
<td>CEE 522 Advanced Issues in Earthquake Engineering</td>
<td>CEE 580 Advanced Topics in Environmental Engineering</td>
</tr>
<tr>
<td>CEE 526 Finite Element Analysis</td>
<td>CEE 581 Environmental Risk Assessment</td>
</tr>
<tr>
<td>CEE 530 Advanced Topics in Structural Engineering</td>
<td>CEE 582 Hazardous Waste Management</td>
</tr>
<tr>
<td>CEE 531 Rehabilitation and Strengthening of Structures</td>
<td>CEE 583 Physicochemical and Biological Processes for the Treatment of the Wastewaters</td>
</tr>
<tr>
<td>CEE 532 Advanced Technology of Materials</td>
<td>CEE 584 Air Pollution Monitoring and Control</td>
</tr>
<tr>
<td>CEE 533 Local and Traditional Building Materials</td>
<td>CEE 585 Experimental Methods in Water and Wastewater Analysis and Treatment</td>
</tr>
<tr>
<td>CEE 534 Liquid Transport Phenomena in Porous Media</td>
<td>CEE 586 Sustainable Built Environment</td>
</tr>
<tr>
<td>CEE 535 Theory of Plasticity</td>
<td>CEE 589 Environment and Health</td>
</tr>
<tr>
<td>CEE 536 Experimental Methods in Structural Engineering</td>
<td>CEE 590 Advanced Topics in Environmental Engineering II</td>
</tr>
<tr>
<td>CEE 537 Rehabilitation and Strengthening of Structures II</td>
<td>CEE 594 Water Treatment</td>
</tr>
<tr>
<td>CEE 540 Behavior and Design of Reinforced Concrete Structures</td>
<td>CEE 596 Management of Renewable Sources of Energy</td>
</tr>
</tbody>
</table>
Description of Courses

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

CEE 501 Computer-Aided Civil Engineering
Analysis and design software for civil engineering. Application of advanced computer-aided design and analysis techniques with emphasis on structural engineering. Database models and systems in civil engineering. Engineering design projects/case studies using selected computerized numerical techniques. Fundamentals of geometric modelling and computer graphics for engineering simulation. Applications using CAD systems. Term project: Utilization of CAD/CAE in a practical application in CEE with emphasis on structural engineering. (8 ECTS: 3-0-10)

CEE 510 Advanced Building Technology
Case studies and architectural design analysis derived mainly from structural engineering issues. Students will be introduced to architectural works with emphasis on structural, construction and environmental design aspects. A design project affected by structural and construction design aspects will be required from each student. (8 ECTS: 3-0-10)

CEE 511 Construction Management and Engineering
Construction management techniques and construction engineering. Project, schedule and cost control, and resource management. Conflict resolution and negotiations. Information systems in construction management and use of relevant software packages. Elements of health and safety in construction. The construction industry and the law. (8 ECTS: 3-0-10)

CEE 512 Risk Analysis in Civil and Environmental Engineering
Advanced topics is a stochastic analysis in Civil and Environmental Engineering. Probability and statistics, data analysis, risk assessment and analysis, hypothesis testing, multifactored analysis, decision trees, neurofuzzy systems, regression, system reliability, and simulation of civil and environmental systems. (8 ECTS: 3-0-10)

CEE 513 Specifications and Conditions of Construction Contracts
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 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 related to technical specifications for construction works and disputed resolution procedures. (8 ECTS: 3-0-10)

CEE 515 Advanced Topics in Construction Management
Advanced and contemporary topics in construction project 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. (8 ECTS: 3-0-10)

CEE 520 Advanced Structural Analysis
Theory and applications of classical and modern structural analysis. Stiffness and flexibility methods. Matrix formulations. Principle of virtual work. Condensation, substructuring and constraints. Thermal loads. Analysis of structures with material and geometric nonlinearities subjected to both static and dynamic loads. Elastoplastic analysis of frames and structures. P-Delta effects and large deformation theory. (8 ECTS: 3-0-10)

CEE 521 Structural Dynamics and Earthquake Engineering

CEE 522 Advanced Issues in Earthquake Engineering

CEE 523 Passive and Active Control of Structures

CEE 526 Finite Element Analysis

CEE 530 Advanced Topics in Structural Engineering
Advanced structural engineering topics that may include special topics in earthquake-resistant design and analysis, advanced static and dynamic structural analysis, special topics in reinforced concrete and steel structures design, foundation engineering, materials engineering and special methods of computational mechanics. (8 ECTS: 3-0-10)

CEE 531 Rehabilitation and Strengthening of Structures

CEE 532 Advanced Technology of Materials

CEE 533 Local and Traditional Building Materials

CEE 534 Liquid Transport Phenomena in Porous Media

CEE 535 Theory of Plasticity
CEE 536 Experimental Methods in Structural Engineering

(8 ECTS: 3-0-10)

CEE 537 Rehabilitation and Strengthening of Structures (II)

(8 ECTS: 3-0-10)

CEE 540 Behavior and Design of Reinforced Concrete Structures

(8 ECTS: 3-0-10)

CEE 541 Reinforced Masonry Design

Building design; masonry materials; masonry assemblages; reinforced beams and lintels; walls under out-of-plane loads; loadbearing walls under axial load and out-of-plane bending; shear walls; masonry veneer and cavity walls; connectors; construction considerations and details; design of loadbearing single-story masonry buildings. The design concepts will be focused on ultimate strength (LRFD) design and the Eurocodes.
(8 ECTS: 3-0-10)

CEE 542 Timber Design

Behavior of timber structures under gravity loads and lateral forces; properties of wood; structural glued laminated timber; beam design; columns subjected to axial forces and combined bending and axial forces; wood structural panels; horizontal diaphragms; shearwalls; wood connections. The design concepts will be focused on ultimate strength (LRFD) design and the Eurocodes.
(8 ECTS: 3-0-10)

CEE 544 Prestressed Concrete Structures

(8 ECTS: 3-0-10)

CEE 545 Nonlinear Structural Analysis

(8 ECTS: 3-0-10)

CEE 550 Advanced Geotechnical Engineering

(8 ECTS: 3-0-10)

CEE 551 Advanced Topics in Roadway Engineering

(8 ECTS: 3-0-10)

CEE 553 Engineering Geology and Rock Mechanics

Composition and properties of rocks and soil, geologic processes, geologic structures and engineering consequences, natural and artificial underground opening, influence of geologic origin and history on the engineering characteristics of soils and rocks. Application of geology in exploration, design, and construction of engineering works. Strength and deformability of intact and jointed rock, in-situ stresses, lab and field methods. Terrain analysis and site investigation; civil
engineering facility citing. Rock slopes; stability and reinforcement; foundation on rocks. Seismic zonation for ground motions and soil liquefaction potential, geotechnical aspects of municipal and hazardous waste disposal.

(8 ECTS: 3-0-10)

**CEE 555 Soil Dynamics and Technical Seismology**


(8 ECTS: 3-0-10)

**CEE 556 Advanced Topics in Geomechanics**

Advanced topics in analysis and design of geotechnical projects. Elements of geology and rock mechanics. Limit Analysis. Computational geomechanics with applications of finite element analysis in special geotechnical engineering topics. Individual project.

(8 ECTS: 3-0-10)

**CEE 560 Advanced Transportation Engineering**

Design of transportation facilities based on operational capacity, site constraints, and safety considerations. Modern planning, economics, and management approaches to transportation activities. Management and control of vehicle flows and fleets. Traffic safety and injury control. Advanced surveillance, navigation, communication, and computer technology to monitor, analyze, and improve the performance of transportation systems. Operational planning and management of the highway transportation system. Urban transportation systems. Analysis and evaluation of mass transit systems. Application of micro/macroeconomic concepts to transportation systems. Integrated treatment of analytical methods and technologies for the management of transportation facilities over their life.

(8 ECTS: 3-0-10)

**CEE 570 Water Resources Management**

Control of water resources by natural system functions, user actions, and influence of social, economic, and political institutions. Water resource policies. Case studies (e.g., flood/drought management).

(8 ECTS: 3-0-10)

**CEE 571 Computational Hydraulics**

Computer applications in hydraulic engineering with emphasis on iteration techniques and finite increment methods applied to open channel flow profile analysis; analysis of flow through spillways, bridge waterways, culverts, and similar structures.

(8 ECTS: 3-0-10)

**CEE 572 Groundwater Hydrology**

Importance and occurrence of ground-water; chemical and physical properties of the groundwater environment; basic principles of ground-water flow; measurement of parameters; pump test design and analysis; transport of contaminants; use of computer models for the simulation of flow and transport problems. Assessment methodologies for dealing with contaminated land and related subjects, e.g. risk assessment.

(8 ECTS: 3-0-10)

**CEE 573 Design of Hydraulic Systems**


(8 ECTS: 3-0-10)

**CEE 575 Energy Efficiency of Buildings**

Basic concepts of energy efficiency in buildings, common methods for building energy analysis; two- and three-dimensional steady-state and transient conductive heat transfer together with convection and radiation as applied to building materials and geometries; minimum energy efficiency requirements, insulating materials, energy efficient technologies and design for buildings; passive cooling and heating, building energy simulation, building energy audits, building energy efficiency standards, building energy codes in Europe and Cyprus; assessment of building energy performance, case studies of buildings (housing and residential, office and commercial, institutional and others).

(8 ECTS: 3-0-10)
CEE 576 Transport Processes
Advanced topics in pollutant transport mechanisms (advection, diffusion, dispersion) related to air, water and ground media. Gaussian plume dispersion models, Lagrangian diffusion, Taylor’s dispersion. Air/Water Quality assessment; environmental design and mitigation strategies. Heat transfer and energy considerations for building design. Individual project.
(8 ECTS: 3-0-10)

CEE 579 Coastal and Maritime Engineering
Tidal theory, hydrographic surveying, maintenance dredging, wave theories, wave refraction, wave diffraction, wave reflection, breakwaters, coastal defence, marine construction, long sea outfalls, estuaries, sediment transport.
(8 ECTS: 3-0-10)

CEE 580 Air Pollution Monitoring and Control
Sources, causes and effects of air pollution, particulate emissions and control technologies, gaseous emissions and controls, emissions estimation and measurement, source sampling, pollutant monitoring, climatic change, acid rain, ozone layer, indoor air pollution.
(8 ECTS: 3-0-10)

CEE 581 Environmental Risk Assessment
Analysis and conceptions of risks, the uses of risk analysis, the structure of environmental risk assessment, hazard identification, studies and measurements of effects, categories of evidences, risk characterization, fate of pollutants in the environmental media, physicochemical and biological processes, environmental models, variability and uncertainty analyses, sensitivity analysis, risk communication.
(8 ECTS: 3-0-10)

CEE 582 Hazardous Waste Management
(8 ECTS: 3-0-10)

CEE 583 Physicochemical and Biological Processes for the Treatment of Wastewater
(8 ECTS: 3-0-10)

CEE 584 Advanced Topics in Environmental Engineering
(8 ECTS: 3-0-10)

CEE 585 Experimental Methods in Water and Wastewater Analysis and Treatment
Sampling, transport and preservation - laboratory analytical methods - quality assurance and quality control - water analysis (organoleptic methods, volumetry, nephelometry, inometry, spectrophotometry, chromatography, mass spectrometry) - microbiological analysis - the physics/chemistry/biology of water. Water characterization (groundwater, surface water, seawater and brackish water, drinking water)/Industrial waste characterization/Urban wastewater characterization/Industrial sludge characterization - treatability of wastewater (e.g., sedimentation, coagulation- flocculation (jar tests), oxidants demand, respirometry) - biomass for wastewater treatment - biological treatment/removal efficiency assessment (anaerobic digestion and co-digestion) - chemical treatment - removal efficiency assessment (UV/H2O2, homogeneous and heterogeneous photocatalysis) - toxicity tests.
(8 ECTS: 3-0-10)

CEE 586 Sustainable Built Environment
Advanced aspects of environmental building design addressed in the context of the challenge for sustainable solutions in the development and operation of such systems in the future. The urban concept (from the building to the city), building physics, environmentally friendly materials, comfort (thermal, acoustic, optical), health (indoor and outdoor air quality), rational water usage, energy efficient systems and integration of renewable energies, integrated sustainable building design.
(8 ECTS: 3-0-10)
CEE 589 Environment and Health
Epidemiology and toxicology; environmental pollution and conditions which may be detrimental to health; health effects associated with the environment; managing the environment to improve health.
(8 ECTS: 3-0-10)

CEE 590 Advanced Topics in Environmental Engineering II
(8 ECTS: 3-0-10)

CEE 594 Water Treatment
(8 ECTS: 3-0-10)

CEE 596 Management of Renewable Sources of Energy
Forms and sources of energy; efficiency and losses by energy transform and transport; energy and society; energy sources – characteristics, properties and applicable technologies, applications and potential of renewable energy sources; systems for energy storage, photothermal and photoelectrical systems, geothermal systems of high, medium and low enthalpy, biomass and technologies for treatment of urban and rural waste for energy production- waste to energy plants, design, environmental and energy pros of waste closure, recycle and energy production.
(8 ECTS: 3-0-10)

CEE 610 Graduate Seminar
Participation in graduate seminars organised by the Faculty of Engineering in the fall semester.
(ECTS assigned by advisor)

CEE 611 Graduate Seminar
Participation in graduate seminars organised by the Faculty of Engineering in the spring semester.
(ECTS assigned by advisor)

CEE 630 Teaching in CEE
For teaching assistants to recognize the educational value derived from satisfactory performance of assigned duties.
(No ECTS credited)

CEE 650 Independent Studies
Individual study, research, or laboratory investigations under faculty supervision.
(ECTS assigned by the professor responsible for the research)

CEE 680 M.Sc. Research
Programme of graduate research leading to the writing and defence of an M.Sc. thesis.
(ECTS assigned by the thesis advisor)

CEE 689 Research Project
Individual research project leading to the completion of the M.Eng. degree.
(10 ECTS: 0-0-10)

CEE 690 Ph.D. Research
Graduate research within a Ph.D. programme.
(ECTS assigned by the thesis advisor)

Research Interests of the Academic Staff

- Dimos C. Charmpis
  Assistant 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
  Assistant 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
  Assistant Professor
  His research interests have a particular emphasis on studies of water movement in porous construction materials and the associated problems of material durability.

- Despo Kassinos
  Assistant 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 management.
treatment, wastewater management systems, xenobiotics in the environment and environmental risk assessment.

• **Petros Komodromos**  
  **Lecturer**  
  His research interests include modern earthquake resistant design, computer-aided engineering and utilization of information technology in engineering.

• **Konstantinos Kostarelos**  
  **Assistant Professor**  
  Recent research projects include use of surfactants to recover coal tar, in–situ treatment options for hexavalent chromium contamination, partitioning tracer testing for NAPL detection and estimation, and treatment of dredged sediments. Exciting new work was undertaken with a colleague to develop a new in–situ chemical sensor for geo-environmental applications.

• **Dimitrios Loukidis**  
  **Lecturer**  
  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**  
  **Assistant 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.

• **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, micromechanics, fracture mechanics, environmental geomechanics, petroleum engineering and finite element analysis.

• **Michalis Petrou**  
  **Associate 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.

• **Dimitrios Vamvatsikos**  
  **Assistant Professor**  
  His research interests are focused on integrating structural modelling, computational techniques, probabilistic concepts and experimental results into a coherent framework for the performance evaluation of structures under seismic loading.

**Contact details**

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CeeGradStudies@ucy.ac.cy

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Panayiotis Roussis  
Tel.: 22892210  
e-mail: roussis@ucy.ac.cy  
http://www.ucy.ac.cy/cee-en
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 in 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 in the Faculty of Engineering at 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. 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 about Attendance Regulations for Postgraduate Programmes and Application Requirements, see page 16. The Department requires the following for admission:

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 of Science (M.Sc.) and Doctoral Degree (Ph.D.) in Electrical Engineering
- Master of Science (M.Sc.) and Doctoral Degree (Ph.D.) in Computer Engineering
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 four graduate degrees:
- Master of Science (M.Sc.) in Electrical Engineering
- Master of Science (M.Sc.) in Computer Engineering
- Ph.D. in Electrical Engineering
- Ph.D. in Computer Engineering

**MASTER OF SCIENCE DEGREES (M.Sc.)**
To be awarded the M.Sc. degree, students must complete at least 90 ECTS of graduate-level coursework, 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:
- At most 16 ECTS, out of the 56 ECTS for courses, can come from directed study courses such as ECE 711-712.
- Of the 56 course 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 from the University of Cyprus or any other accredited university. Units outside the Department are approved by the Graduate Studies Committee, and are not to exceed 18 ECTS, unless approved by the Department Board.
- For students who completed graduate level courses as a part of other graduate programmes, at most 18 ECTS from these courses can count towards the 56 ECTS for graduate coursework, after approval by the Department Board.
- To satisfy the 4 ECTS requirement for seminars, each student 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.

Students admitted into the M.Sc. programme of Electrical Engineering who do not have an undergraduate degree in Electrical Engineering must 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. programme of Computer Engineering without an undergraduate degree in Computer Engineering must possess fundamental knowledge of basic concepts in the following areas: Computer Architecture and Organisation, Operating Systems, and Algorithms. The student’s academic advisor will determine if, and what, additional coursework is required. This may require a maximum of four additional courses from the above areas (possibly from the corresponding undergraduate programme of the Department).
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), seminars (at least 4), and research (at least 180). 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 Department.

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.


The maximum duration allowed for a Ph.D. degree is currently eight (8) academic years. For more information about the requirements for completion of the Ph.D. degree, see page 16 and the detailed postgraduate level study guide of the Department.

Areas of Research

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.

<table>
<thead>
<tr>
<th>Courses offered</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>ECE 621 Random Processes</td>
<td>8</td>
</tr>
<tr>
<td>ECE 622 Information Theory</td>
<td>8</td>
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<tr>
<td>ECE 623 Digital Signal Processing</td>
<td>8</td>
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<tr>
<td>ECE 624 Principles of Digital Communications</td>
<td>8</td>
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<td>ECE 625 Wireless Communication Networks I</td>
<td>8</td>
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<td>ECE 626 Image Processing</td>
<td>8</td>
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<tr>
<td>ECE 627 Machine Vision</td>
<td>8</td>
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<tr>
<td>ECE 628 Advanced Communication Systems</td>
<td>8</td>
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<tr>
<td>ECE 629 Fiber Optic Communication Systems and Networks</td>
<td>8</td>
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<tr>
<td>ECE 631 Systems Theory</td>
<td>8</td>
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<tr>
<td>ECE 632 Modern Decision and Control Systems</td>
<td>8</td>
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<tr>
<td>ECE 633 Security of Computer Systems and Networks</td>
<td>8</td>
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<tr>
<td>ECE 634 Introduction to Computational Intelligence</td>
<td>8</td>
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<tr>
<td>ECE 635 Optimization Theory and Applications</td>
<td>8</td>
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<tr>
<td>ECE 636 Systems Identification</td>
<td>8</td>
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<tr>
<td>ECE 643 Radio and Microwave Wireless Systems</td>
<td>8</td>
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<tr>
<td>ECE 645 Optics and Photonics</td>
<td>8</td>
</tr>
<tr>
<td>ECE 646 Advanced Antenna Theory</td>
<td>8</td>
</tr>
<tr>
<td>ECE 648 Introduction to Photonics</td>
<td>8</td>
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<tr>
<td>ECE 649 Electromagnetic Waves and Antenna Theory</td>
<td>8</td>
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<tr>
<td>ECE 652 Embedded and Real-Time Systems</td>
<td>8</td>
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<tr>
<td>ECE 653 Advanced Real-Time Systems</td>
<td>8</td>
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<tr>
<td>ECE 654 Advanced Computer Networks</td>
<td>8</td>
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<td>ECE 655 Advanced Operating Systems</td>
<td>8</td>
</tr>
<tr>
<td>ECE 656 Advanced Computer Architecture</td>
<td>8</td>
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<tr>
<td>ECE 657 Computer-Aided Design for VLSI</td>
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<td>ECE 658 Computer Systems' Performance Evaluation and Simulation</td>
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<td>ECE 659 VLSI Design</td>
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<td>ECE 660 VLSI Test</td>
<td>8</td>
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<td>ECE 661 Logic Synthesis and Optimization</td>
<td>8</td>
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<tr>
<td>ECE 662 Physical Design Automation</td>
<td>8</td>
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<tr>
<td>ECE 663 Distributed Systems</td>
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</table>
Description of Courses

ECE 621 Random Processes


ECE 622 Information Theory


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


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

**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 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 realizations; 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**


**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-liner 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**


**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 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**


**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 (datapath 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. 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


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


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.


ECE 683 Power Electronics


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 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 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 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 771-773 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 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**

- **Charalampos A. Charalambous**  
  Assistant 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.

- **Charalampos 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  

- **George E. Georgiou**  
  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**  
  Assistant 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**  
  *Associate 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.

- **Elias Kyriakides**  
  *Assistant 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**  
  *Assistant 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**  
  *Lecturer*  
  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**  
  *Lecturer*  
  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 Panayiottou**  
  *Associate Professor*  
  Optimization and control of discrete-event systems with applications to computer communication networks, manufacturing systems and transportation networks.

- **Constantinos Pitris**  
  *Assistant 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**  
  *Lecturer*  
  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

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Fax: 22892260  
e-mail: ece@ucy.ac.cy  
http://www.ucy.ac.cy/ece-en
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.

On the magic scale of atoms and molecules, the laws of nature are revealed in new phenomena and structures. It is through the mechanisms of the nanoworld that nature achieves all the miracles that we witness daily, including life itself. Today, therefore, nature and its mysteries are examined more and more through the lines of nanoscience and nanotechnology.

In 2005, the Mechanical and Manufacturing Engineering (MME) Department supported by the Cyprus Research Promotion Foundation (RPF), the European Commission and its Marie Curie mobility programme, and the University of Cyprus established the first Nanotechnology Research Unit at the University of Cyprus. The “Hephaistos” Nanotechnology Research Unit, comprising staff, faculty, researchers and students, focuses on the in-depth investigation, manufacturing and applications of systems and devices on the nanoscale. The Unit’s activities cover a wide range of research areas including nano-heaters for thermal nanomanufacturing, nanostructured coatings for tribological applications, manufacturing of nanocomposite materials, nanosensor networks, the fabrication of nanoscaffolds with potential applications in tissue-engineering, etc.

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:

- Thermo-fluid mechanics and energy systems
- Materials science and engineering
- Simulation of mechanical systems and controls
- Design, manufacturing, automation and robotics
At present, the Department offers graduate degrees in the areas of (i) Mechanical and Manufacturing Engineering and (ii) Materials Science and Engineering. It is expected that the gradual increase in faculty and administrative personnel will allow additional postgraduate degrees to be offered in other Engineering disciplines.

**Mechanical and Manufacturing Engineering**

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.

**Material Science and Engineering**

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 Engineering focuses on the synthesis of materials in useful quantities, and on the processing of materials into engineering products. Materials engineering 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 Engineering 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 Engineering 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.

**Duration of Studies**

The minimum duration of the M.Sc. programme for full-time students in Mechanical and Manufacturing Engineering is 3 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 (8 semesters). 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).

**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 22 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 undergraduate or 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, see the Admission and Attendance Regulations – Application Requirements on page 16 or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

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.

Structure of the Programme

The programme of study leading to the M.Sc. degree in Mechanical and Manufacturing Engineering 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:

### Compulsory courses
- Course selection from Group A

### Thesis research (MME 701-704)
- 60 ECTS

### Graduate seminar I-IV (MME 501-4)
- 4 ECTS

### Selection of at least one of the following:
- Additional coursework outside MME or from Group A
- Additional coursework from Group B
- Independent Study (MME 505)

**TOTAL**
- 120 ECTS

### MASTER OF SCIENCE (M.Sc.) IN MATERIALS SCIENCE AND ENGINEERING

The programme of study leading to the M.Sc. degree in Materials Science and Engineering 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:

### Compulsory courses
- Course selection from Group B

### Thesis research (MME 701-704)
- 60 ECTS

### Graduate seminar I-IV (MME 501-4)
- 4 ECTS

### Selection of at least one of the following:
- Additional coursework outside MME or from Group B
- Additional coursework from Group A
- Independent Study (MME 505)

**TOTAL**
- 120 ECTS
Indicative Programme of Studies - M.Sc. Degree

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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 22 or more ECTS each semester.

Transfer of Credit and Student Exchanges

Students admitted to the Ph.D. programme in Mechanical and Manufacturing Engineering from an accredited undergraduate 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.

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.

For students with a B.Sc. degree, the comprehensive examination must be taken no later than three academic semesters subsequent to enrollment in the Ph.D. programme. For students with an M.Sc. degree, the comprehensive examination must be taken no later than two academic semesters subsequent to 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 within a year after admission to candidacy (after passing the Comprehensive Examination) and at least one year before the intended date of defence.

**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 programs, 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, see the Admission and Attendance Regulations – Application Requirements on page 16, or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

## DOCTOR OF PHILOSOPHY (Ph.D.) IN MECHANICAL AND MANUFACTURING ENGINEERING

Graduate students are awarded the M.Sc. 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 240 ECTS in graduate level courses (beyond any taken for the Bachelor degree) and research work distributed as follows:

- **Compulsory courses**: 48 ECTS
  - Course selection from Group A
- **Thesis research (MME 801-816)**: 160 ECTS
- **Graduate seminar I-IV (MME 601-4)**: 8 ECTS
- **Selection of at least one of the following**: 24 ECTS
  - Additional coursework outside MME or from Group A
  - Additional coursework from Group B
  - Independent Study (MME 605)

**TOTAL**: 240 ECTS

## DOCTOR OF PHILOSOPHY (Ph.D.) IN MATERIALS SCIENCE AND ENGINEERING

Graduate students are awarded the M.Sc. degree in Materials Science and 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 Materials Science and Engineering requires the completion of at least 240 ECTS in graduate level courses (beyond any taken for the Bachelor degree) and research work distributed as follows:

- **Compulsory courses**: 48 ECTS
  - Course selection from Group B
- **Thesis research (MME 801-816)**: 160 ECTS
- **Graduate seminar I-IV (MME 601-4)**: 8 ECTS
Selection of at least one of the following:  24 ECTS
- Additional coursework outside MME or from Group B
- Additional coursework from Group A
- Independent Study (MME 605)

TOTAL  240 ECTS

Indicative Programme of Studies – Ph.D. Degree

<table>
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<tr>
<th>Semester</th>
<th>Courses</th>
<th>ECTS</th>
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<tbody>
<tr>
<td>1st semester</td>
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<td>Course II</td>
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<td>Course III</td>
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<td>4th semester</td>
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8th semester

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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 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 Fundamentals 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 561 Lasers and their Applications
- MME 562 Semiconductor Processing Technology
- MME 564 Nanomechanics
- MME 565 Physical Principles, Design and Fabrication of MEMs
- 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
- MME 641 Thermal Manufacturing Processes

Group B
- MME 551 Characterization Methods of Polymers and Colloids
- MME 552 Semiconductor Materials: Properties and Applications
- MME 553 Surface Engineering
- MME 554 Materials Characterization Techniques
- MME 555 Polymer Properties and Polymers in Medical Applications
- MME 556 Fundamentals of Ceramics
- MME 557 Metals and Alloys (New Course)
- MME 563 Materials Physics
- MME 566 Advanced Semiconductor Photovoltaic Devices
- MME 651 Electronic and Magnetic Oxides
Description of Courses

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 and advanced undergraduates as an elective.

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 and advanced undergraduates as an elective.

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.

In MME 604, besides the compulsory participation in all seminars during the 4th semester, students must submit written documentation (no more than 20 pages) followed by 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.

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 801-808 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 (Ph.D.) (10 ECTS)

MME 511 Transport Phenomena
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.
(Prerequisites: instructor's consent)

MME 512 Advanced Engineering Thermodynamics
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.
(Prerequisites: instructor's consent)

MME 513 Computational Fluid 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.
(Prerequisites: knowledge of a computer language and advanced level courses in transport phenomena and continuum mechanics)

MME 514 Incompressible Fluid Dynamics
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.
(Prerequisites: fundamentals of thermodynamics and mechanics, knowledge of advanced mathematics, undergraduate courses in fluid mechanics)
MME 515 Introduction to Parallel Computing for Engineers: Architectures, Algorithms and Applications

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.  
(Prerequisites: instructor’s consent)

MME 521 Computer-Controlled Systems

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.  
(Prerequisites: MME 321 or instructor’s consent)

MME 522 Multivariable Feedback Control

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

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

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.  
(Prerequisites: Undergraduate-level technical mathematics and dynamics, English language or instructor’s consent)

MME 531 Continuum Mechanics

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.  
(Prerequisites: instructor’s consent)

MME 532 Advanced Mechanics of Vibration

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 Langrange’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
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
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
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
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. (Prerequisites: MME 103, MAS 041, MAS 043, ENG 104 or instructor’s consent)

MME 538 Physiological Foundations for Engineers
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. (Prerequisites: MAS 043, MME 103, MAS 044, ENG 104 or instructor’s consent)

MME 541 Manufacturing Process Automation
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. (Prerequisites: MME 321, MME 341 or instructor’s consent)
MME 542 Introduction to Robotics

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.

(Prerequisites: MME 221, MME 341 or instructor’s consent)

MME 551 Characterization Methods of Polymers and Colloids

This course outlines different methods used in the characterization of “soft materials.” Introduction to Polymers and Colloids. The techniques discussed are the following: Liquid adsorption chromatography (LAC) and size exclusion chromatography (SEC); Osmometry and viscometry; analytical ultracentrifugation (AUC), field flow fractionation (FFF) and capillary hydrodynamic fractionation (CHDF); dynamic mechanical analysis (DMA); scattering techniques: dynamic (DLS) and static (SLS) light scattering, A-ray and neutron scattering (SAXS, WAXS, SANS); microscopy techniques: transmission electron microscopy (TEM), scanning electron microscopy (SEM) and atomic force microscopy (AFM); methods used in determining glass transitions of polymers and mass spectrometry techniques used in polymer characterization. The course includes demonstrations and/or lab experiments.

(Prerequisites: instructor’s consent)

MME 552 Semiconductor Materials: Properties and Applications


MME 553 Surface Engineering

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 range from traditional, well-established techniques (e.g., painting, electroplating and galvanizing), to more technologically demanding coating technologies and surface treatments (e.g., physical and chemical vapor deposition, ion implantation and laser treatment) which have benefited from recent innovations. Thus the mechanical/materials engineer is faced with a multitude of options when selecting a treatment to engineer the surface of a component or structure. This course will introduce and explore these options.

(Prerequisites: instructor’s consent)

MME 554 Materials Characterization Techniques

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.

(Prerequisites: instructor’s consent)

MME 555 Polymer Properties and Polymers in Medical Applications

The course is divided into two parts. The first part deals with the structure–properties interrelation in polymers. In the second part, topics related to polymeric biomaterials and their medical applications are discussed: Biodegradable polymers, biopolymers, polymers as drug-delivery systems, use of polymers in dental applications, immobilization of enzymes on polymers, polymer hydrogels and their medical and pharmaceutical applications, polymeric membranes. Polymer-bound antibodies and antigens. Polymeric templates in tissue engineering.

(Prerequisites: instructor’s consent)

MME 556 Fundamentals of Ceramics

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.

(Prerequisites: instructor’s consent)
MME 561 Lasers and their Applications

In science fiction movies of the 1950s, there were often monsters who could emit lethal rays of light from their eyes, but until the invention of the laser, such concentrated and powerful energy beams were only fantasy. Today 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 offers an introduction to lasers and their wide range of applications.
(Prerequisites: instructor’s consent)

MME 562 Semiconductor Processing Technology

(Prerequisites: instructor’s consent)

MME 563 Materials Physics

(Prerequisites: instructor’s consent)

MME 564 Nanomechanics

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.
(Prerequisites: ENG 100, 104, MAS 041, MAS 042, MAS 043, MAS 044 or instructor’s consent)

MME 565 Physical Principles, Design and Fabrication of MEMs

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 such as switches, comb drives and pressure sensors are described 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. Specifically, 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. These include: RF MEMs, Microfluidic MEMs.
(Prerequisites: ENG 100 or instructor’s consent)

MME 566 Advanced Semiconductor Photovoltaic Devices

The aim is to introduce students to advanced compound semiconductors and third-generation photovoltaic solar cells. Introduction and overview of the history of compound semiconductors. Low dimensionality: quantum wells, wires and dots. Schrödinger’s equation, wave particle duality. Density of states in 3D, 2D and 1D. The square quantum well: energy levels and wave functions. Poisson’s equation and the two-

MME 611 Statistical Theory and Modelling of Turbulent Flow
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-velocity and structure-based. Topics on complex flows; strongly rotated turbulence, magneto-hydrodynamic turbulence; astrophysical turbulence. (Prerequisites: instructor’s consent)

MME 621 Advanced Engineering Controls
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. (Prerequisites: MME 521 or instructor’s consent)

MME 622 Non-Linear Dynamics
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. (Prerequisites: simple undergraduate engineering mathematics; familiarity with linear ordinary differential equations and linear algebra)

MME 623 Advanced Multi-Body Dynamics
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. (Prerequisites: intermediate dynamics and vibrations, English)

MME 631 Non-Linear Acoustics
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. (Prerequisites: MME 533, MME 534)

MME 641 Thermal Manufacturing Processes
In-depth analysis and design of advanced thermal manufacturing processes, with emphasis on departmental research activities. Review of the related literature, as well as the state of the art in hardware and software for thermal modelling and control of traditional and non-traditional manufacturing techniques. Background in thermal sciences is applied to manufacturing processes, invariably involving dynamic heat and/or mass transfer phenomena. Principles, implementation, simulation and control of thermal processes such as arc, plasma, Laser, ultrasonics, and spray for cutting, joining, rapid prototyping and rapid thermal processing of materials. Topics include thermal modelling, covering analytical, numerical and experimental methods, as well as control techniques, including multivariable, distributed-parameter and adaptive algorithms. Hands-on projects in the Hephaistos Manufacturing Laboratory. (Prerequisites: MME 521 or instructor’s consent)
MME 651 Electronic and Magnetic Oxides
(Prerequisites: instructor's consent)

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
  Assistant 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.

- Christakis Constantinides
  Assistant Professor
  The goal of his research endeavors is the complete characterization of the electromechanical function of the heart in small animals and humans, aiming to facilitate the understanding of human disease that is predominantly underlined by genetic causes. His broad research interests lie in the areas of physiology, cardiac mechanical function and molecular biomedical imaging. Specifically, his particular interests focus on hardware design, non-linear reconstruction algorithms, tissue structure modelling and simulations, implanted devices, interventional catheterization techniques, and cellular tracking methods, using novel diagnostic microimaging techniques with emphasis on Magnetic Resonance Imaging. Other interests involve the implementation of safety and quality assurance programs in diagnostic imaging.

- Haralabos Doumanidis
  Professor
  His research interests include nanomanufacturing, thermal manufacturing, material deposition and joining processes, rapid prototyping, rapid thermal processing and laser annealing of semiconductors, distributed parameter system modelling and control, robotics and mechatronics, and biomedical instrumentation.

- Ioannis Giapintzakis
  Associate 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 magnetostrictive oxides, magnetic properties of carbon-based nanostructures, and high-temperature superconductors.

- Dimokratis Grigoriadis
  Lecturer
  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
  Assistant 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
  Assistant Professor
  His research interests include non-linear systems, dynamic modifications and robustness, modern signal processing techniques, statistical mechanics and their application to nanomechanics.

- Theodora V. Kyratsi
  Assistant 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**  
  *Assistant 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**  
  *Lecturer*  
  His research is focused on optimizing the delivery of therapeutic nanoparticles to solid tumors. Recent advances in nanotechnology have offered fresh hope in cancer detection, prevention and treatment. Nanoparticle formulations such as liposomes, semiconductor nanocrystals and oncolytic viruses, with a size range of 1-1000 nm, are advantageous over conventional chemotherapy because they have the potential to enable the preferential delivery of drugs to tumors. The heterogeneous and abnormal structure of tumors, however, prevents uniform delivery of these particles to all regions of tumors in sufficient quantities. Insufficient delivery results in reduced efficacy of cancer therapy that compromises the promise of nanomedicine in patients. Therefore, it is necessary to determine the design criteria - the size, charge and shape of various nanoparticle platforms - that optimize drug delivery to tumors. Dr. Stylianopoulos is working on a mixture of experimental and computational projects with the aim of establishing guidelines for the design of nanoparticle formulations that optimize intratumoral delivery.

- **Matthew Zervos**  
  *Lecturer*  
  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.

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Theodora Krasia-Christoforou  
Christakis Constantinides  
Loucas S. Louca

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[http://www.ucy.ac.cy/mme-en](http://www.ucy.ac.cy/mme-en)
FACULTY OF LETTERS

- Department of Byzantine and Modern Greek Studies 236
- Department of Classics and Philosophy 242
- Department of History and Archaeology 246
- Interdepartmental Programme in Byzantine Studies 256
Introduction

Both postgraduate programmes of the Department are offered at two levels: a Master Degree and a Ph.D. Degree. The postgraduate programme in Modern Greek Studies also includes 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 interdepartmental postgraduate programme in Byzantine Studies similarly aims at promoting an interdisciplinary approach in the broader field of Byzantine Studies.

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 the postgraduate programmes of other departments of the University of Cyprus, as well as with other European Universities.

For this purpose and to promote interdisciplinary research in the frame of the postgraduate programmes, the Department holds exchange programmes with other Universities, with the Institute of Modern Greek Studies of the University of Paris (Paris IV), the Institute of Greek and Latin Philology (Division of Byzantine and Modern Greek Philology) of the University of Hamburg, the Department of Greek Philology of the University of Athens and the Department of History of Art of the University of Granada.

INTERDEPARTMENTAL POSTGRADUATE PROGRAMME IN BYZANTINE STUDIES

(See page 256)

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, archive studies, 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.)

Master Degree

Number of Students
Twelve, including Ph.D. students.

Admission Requirements
1. B.A. in Modern Greek Literature or related subject (upper second class 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 exam in: a) Modern Greek Literature, b) one foreign language.
5. Interview by the academic staff of the Programme

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:
   80 ECTS are obtained through successful attendance of the postgraduate seminars (10 ECTS correspond to each seminar)
   40 ECTS for the completion of the dissertation
2. Viva on the M.A. dissertation

Analytical Programme of Studies

First semester
Completion of three postgraduate seminars (30 ECTS)

Second semester
Completion of two postgraduate seminars (30 ECTS)

Third semester
Completion of two postgraduate seminars (20 ECTS)

Fourth semester
Writing of the M.A. dissertation under supervision, and submission of the dissertation, which must first be presented at the colloquium (40 ECTS). On the Colloquium, see point 4 in the Structure of the Programme below.

Structure of the Programme
1. Postgraduate seminars cover five periods:

A. 11th-14th centuries (code nos. 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, Istoria ton Tetrapodon Zoon); the romances (Kallimachos & Chrysoroi, Imperios & Margarona) and other historical narratives (Istoria Velissariou, Diegesis Achilleos). Special attention is focused on the early period of Cretan literature, and poets such as Stephanos Sachlikis and Marinos Falieros.

B. 15th – 17th centuries (code nos. 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 literary production of Crete from the early Renaissance period (Bergadis' Apokopos) to the period of the 'Cretan bloom' (Erotokritos, Thysia tou Avraam, Erofili, etc.), and the medieval-renaissance literature of Cyprus (from the Chronicle of Leontios Machairas up to Rimes Agapis).

C. 18th – 19th centuries (code nos. 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. Moisiodax, D. Katartzis, A. Koraes, and the poetic production of I. Vilaras
and A. Christopoulos. This unit also includes Folk 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 century (code nos. 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.), Modern Greek modernism (Seferis, Elytis, Ritsos), the poetry of C.P. Cavafy, Modern Greek surrealism (N. Kalas, A. Empeirikos, N. Engonopoulos), the ‘Novel of the 1930s’, post-war poetry (T. Sinopoulos, M. Anagnostakis, M. Sachtouris, K. Montis) and post-war prose (Str. Tsirkas, D. Hatzis, Y. Ioannou, etc.).

E. Methodology (code nos. 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 four seminars in a single unit may be selected.

3. In consultation with their supervisor students may attend seminars offered in other postgraduate programmes within the Department or within the School of Philosophy.

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. M.A. students are required by the Programme to present part of their dissertation in the Colloquium.

5. The M.A. dissertation in Modern Greek Studies carries the course code number BMG 695.

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 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 committee, during the first semester. It tests the methodological and grammatical knowledge of the candidates. Specifically, the candidates are examined in one of the three grammatical areas listed below. This area is determined by their thesis proposal. The three grammatical areas are the following:

   (a) Poetry
   (b) Prose
   (c) Essay Criticism

2. Approval of the detailed thesis proposal. During the first semester of the Ph.D. programme, students engage in preliminary research on their topic, which will lead to a detailed thesis proposal. The proposal is submitted to a three-member committee at the end of the semester.

3. Attendance at the Departmental Colloquia.

4. Submission and approval of the Ph.D. dissertation.
For more information on the academic requirements, see the Admissions and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) 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.

- **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**
  Assistant 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**
  Assistant Professor
  Byzantine theological literature, in particular religious poetry, hymnography and their commentaries, the history of theological commentaries and homiletical texts; Byzantine lexicography, prosopography and the critical edition and study of texts.

- **Martin Hinterberger**
  Associate 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.

- **Tassos A. Kaplanis**
  Assistant Professor
  Early modern Greek (vernacular) language and literature of the period 12th to early 19th centuries, theory of literature and comparative studies. More specifically, Cypriot and Cretan literary and historiographical production of the 16th and 17th centuries; periodization and origins of early modern Greek literature; editorial techniques applied to early modern Greek texts; poetics and, in particular, generic classifications from the Renaissance to the present; ‘pop’ and ‘pulp’ fiction in the same period; iconological studies; interrelation of history and literature.

- **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.

- **Eleftherios Papaleontiou**
  Assistant Professor
  Modern Greek Literature and, especially, Modern Greek Literary Criticism, Cypriot literature and Modern Greek Prose of 1880 and 1920.

- **Michalis Pieris**
  Professor
  Modern Greek Language and Literature, especially Medieval and Renaissance Cypriot Literature (Leontios Machairas, Cypriot Love Poems of the 16th century), contemporary poetry (in particular, Cavafy, Seferis, Montis, Sinopoulos), Modern Greek
theatre (in particular, approaches to the stage interpretation of Modern Greek literary works).

• **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 cc in relation to the European Literature of the same period, History of Modern Greek Criticism.

• **Pantelis Voutouris**  
  *Professor*  
  Modern Greek Literature of the 19th and 20th centuries, in particular Greek prose writing 1830-1930 and Greek Surrealism.

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**Contact details**

**Coordinators of the Programme in Byzantine Studies**

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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

Basic Requirements

Applicants for entrance in the Postgraduate Programme must hold a First or Upper Second Class Honours Degree (or equivalent), from the University of Cyprus or any other accredited university, in Classical Studies or a related subject. They must also submit two letters of recommendation from professors of Classics or a related field. Additional qualifications such as other degrees may, upon assessment, be considered as an advantage.

Interview and Examinations

Admission is granted to a candidate who has conducted an interview before a three-member committee, and who has successfully taken a written examination.

Level of Studies

Applicants who fulfill all entry requirements will be admitted as postgraduate students and an Academic Advisor will be assigned by the Department. During the required four semesters and depending on their performance, students will be admitted to one of the two levels of the Postgraduate Programme, i.e., M.A. (Magister
Artium) level or Ph.D. level and a Research Advisor will be
appointed from among the Programme’s teaching staff.

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.

Programme of Studies
The graduate programme in Classical Philology of the
Department has, from its inception, included eight courses
with the following structure: Two courses in Ancient Greek
(AGP 600-699 in accordance with the thematic units of the
undergraduate programme), two courses in Latin (LAT
600-699 in accordance with the thematic units of the
undergraduate programme), two courses in Historical
Linguistics and/or Epigraphy (AGL 600-699 in accordance
with the thematic units of the undergraduate programme), one course in Papyrology (AGP 601) and one
course in Paleography (HIS 661).

Courses in Classical Philology are offered as an alternative
to the courses in Ancient Greek and Latin.

Postgraduate Seminars
The Postgraduate Seminars of the programme will be
structured around the following areas of Classical Studies:
• Ancient Greek Literature
• Latin Literature
• Comparative Study of Classical Literature
• Ancient Text Criticism and Editorial Technique

• Auxiliary Disciplines of Classical Studies (Greek and Latin
  Palaeography, Papyrology, Epigraphy)
• Ancient Greek Language and Dialects
• History of the Latin Language
• Political Thought of the Ancient Greeks and the Romans
• Interpretative Approaches to Classical Texts
• Translation Issues in Classical Texts
• Classical Survivals in Modern Literatures
• History of Classical Scholarship

Three courses are offered in the first and second semester,
and two courses in the third semester. The courses in
Ancient Greek (code AGP) and Latin (code LAT) must cover
different fields which can be defined either on the basis of
the periods being studied, e.g. Poetry and Prose of the
Classical Period, or, on the basis of genre, e.g. Poetry of the
Archaic and Classical Period. This curriculum ensures that,
during a two year programme all postgraduate students
receive a comprehensive knowledge of ancient Greek
literature.

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 600 - 699
LAT I 600 - 699
AGL I 600 – 699

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 601 Papyrology
AGP II 6...
LAT II 6...
AGP 690 M.A. Research I (6 ECTS)
Third semester
(2 courses x 9 ECTS = 18 ECTS and continuation of the writing of the M.A. Thesis = 12 ECTS, Total: 30 ECTS)
AGL II 645 - 670
HIS 661 Latin Paleography
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
  Assistant 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).

- Ioannis Taifacos
  Professor
  Textual criticism and editorial techniques in Greek and Roman classics, Roman historiography, Greco-Roman political thought, Latin grammarians and scholarship, Latin funeral orations, Roman poetry and influences on modern poetry.

- 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.

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http://www.ucy.ac.cy/cph-en
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:

- **Mediterranean Archaeology: from Prehistory to Late Antiquity** (Master and 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.)

In the near future, the Department will offer a postgraduate programme in Cultural Heritage Management.

**Research Activity**

The Department has inaugurated research programmes and projects in which postgraduate research assistants and postgraduate students participate. 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)

**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 academic staff members 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 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:
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 thesis I" (10 ECTS). In the fourth semester postgraduate students continue and complete the master thesis (ARC 811 "Preparation and writing of a master thesis II": 30 ECTS).

**Programme of Studies**

**First Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 720</td>
<td>The Mediterranean in the 2nd millennium B.C.</td>
</tr>
<tr>
<td>ARC 740</td>
<td>Art: Production and circulation (Architecture, Sculpture, Ceramics, Minor Arts, etc.) of the Geometric and Classical Periods</td>
</tr>
<tr>
<td>ARC 760</td>
<td>Art: Production and circulation (Architecture, Sculpture, Ceramics, Minor Arts, etc.) of the Hellenistic and Roman Periods</td>
</tr>
<tr>
<td>ARC 770</td>
<td>Topography of the main centres of Hellenistic and Roman Antiquity (urban centres, necropoleis and sanctuaries)</td>
</tr>
<tr>
<td>ARC 780</td>
<td>Protection, Preservation and Management of Cultural Heritage</td>
</tr>
<tr>
<td>ARC 790</td>
<td>Theoretical Archaeology, Methodology, Archaeometry and Environmental Archaeology: The directions of modern research</td>
</tr>
<tr>
<td>ARC 800</td>
<td>Ancient Technology (Ceramics, Metal, Stone, Glass, etc.)</td>
</tr>
<tr>
<td>HIS 700</td>
<td>Ancient Greek and Roman History: The directions of modern research</td>
</tr>
<tr>
<td>HIS 710</td>
<td>Ancient Greek and Latin Epigraphy</td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 700</td>
<td>The Mediterranean in Early Prehistory</td>
</tr>
<tr>
<td>ARC 790</td>
<td>Theoretical Archaeology, Methodology, Archaeometry and Environmental Archaeology: The directions of modern research</td>
</tr>
<tr>
<td>HIS 702</td>
<td>Documents of the Hellenistic and Roman Periods in the Eastern Mediterranean</td>
</tr>
</tbody>
</table>

**Third Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 730</td>
<td>The Mediterranean in the Iron Age</td>
</tr>
<tr>
<td>ARC 750</td>
<td>Topography of the main centres of Classical antiquity (urban centres, necropoleis and sanctuaries)</td>
</tr>
<tr>
<td>ARC 770</td>
<td>Topography of the main centres of Hellenistic and Roman antiquity (urban centres, necropoleis and sanctuaries)</td>
</tr>
<tr>
<td>HIS 711</td>
<td>Inscriptions of Cyprus</td>
</tr>
<tr>
<td>ARC 810</td>
<td>Preparation and writing of stage I of the Master Thesis (offered only to 3rd semester students and is compulsory)</td>
</tr>
</tbody>
</table>

**Fourth Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC 710</td>
<td>The Mediterranean in the 3rd millennium B.C.</td>
</tr>
<tr>
<td>ARC 780</td>
<td>Protection, Preservation and Management of Cultural Heritage</td>
</tr>
<tr>
<td>ARC 800</td>
<td>Ancient Technology (Ceramics, Metals, Stone, Glass, etc.)</td>
</tr>
<tr>
<td>ARC 811</td>
<td>Preparation and writing of stage II of the Master thesis (offered only to 4th semester students and is compulsory)</td>
</tr>
</tbody>
</table>

**Prerequisites for Admission to the M.A. Programme**

1. Candidates may be:
   (a) Graduates of the Department of History and Archaeology of the University of Cyprus or the Departments of History and Archaeology of Greek universities.
   (b) Graduates of the Department of Classical Studies and Philosophy of the University of Cyprus or equivalent departments of Greek universities.
   (c) Graduates of Departments of Archaeology and/or Classical Studies of recognized universities.
   (d) 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.
(e) 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 two 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 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, see the Admission and Attendance Regulations – Application Requirements on page 16 or consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s 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
Fax: 22674101
e-mail: georgep@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: e.egoumenidou@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 to the Colloquium
III. MA dissertation

Students have to fulfill successfully all three elements of the programme in order to obtain the MA.

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 (or others) 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 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 The 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 acceptance in 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 fulfill all the criteria for acceptance.

5. The language of teaching and assessment is Greek.

6. Number of students admitted to the MA per year: fifteen (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 credits of the European Credit Transfer System (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 |

Total 120 ECTS

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

<table>
<thead>
<tr>
<th>Semester</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st semester</td>
<td></td>
</tr>
<tr>
<td>3 courses from two categories of courses X 9 ECTS</td>
<td>27</td>
</tr>
<tr>
<td>(optionally: 3 courses from one category of courses X 9 ECTS)</td>
<td></td>
</tr>
<tr>
<td>Independent study and participation at the Colloquium</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
</tr>
</tbody>
</table>

| 2nd semester | |
| 3 courses from two or three categories of courses X 9 ECTS (optionally: 3 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 |
| Total | 30 |

| 3rd semester | |
| 1 course from the offered categories of courses X 9 ECTS | 9 |
| M.A. Dissertation I X 21 ECTS | 21 |
| Total | 30 |

| 4th semester | |
| M.A. Dissertation II X 30 ECTS | 30 |
| Total | 30 |

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
Registrations

Every candidate accepted by the University of Cyprus must complete the relevant registration form, and submit it, together with the application material specified to the Postgraduate Studies Office of the Academic Affairs and Student Welfare Service.

Calculation of the Work Load (ECTS)

The unit of credit is based on the calculation of the student workload during of 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
6 hours of meetings for academic guidance: 6
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 fulfill 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 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 Organisation 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: 22892181
e-mail: g.kazamias@ucy.ac.cy

INTERDEPARTMENTAL POSTGRADUATE PROGRAMME IN BYZANTINE STUDIES
(see page 256)

Contact details
Programme Coordinator for the Department of History and Archaeology
Alexander Beihammer
Tel.: 22892177
Fax: 22892181
e-mail: abeihamm@ucy.ac.cy

Research Interests of the Academic Staff

- **Alexander Beihammer**
  Associate Professor
  Analysis and edition of documents of Byzantine diplomatics. Diplomacy in the Byzantine State, especially diplomatic and cultural relations with the Arab world. The institutions and society of the Middle Byzantine period.

- **Stella Demesticha**
  Assistant 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.

- **Euphrosyne Rizopoulou-Egoumenidou**
  Professor
  Folk art and architecture, pre-industrial technology, material life of the recent past and the folk culture of Cyprus and the wider Mediterranean area in general. Study of 18th/19th cent. ethnographic material through the written sources.

- **Giorgos Georgis**
  Associate Professor
  Diplomatic History, History of Greek-Turkish Relations in the 19th century, History of Cypriot and Greek political parties, Modern Cyprus History, especially the National Movement (1878-1959).

- **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**
  Assistant 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**
  Associate 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
  Assistant 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
  Assistant Professor

• 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.

• Demetrios Michaelides
  Professor
  Hellenistic and Roman mosaics and frescoes; the ancient trade in marble, amphoras and worked seashells; the topography of Hellenistic and Roman Cyprus; the topography of Nicosia.

• Petros Papapolyviou
  Associate Professor

• George Papasavvas
  Assistant 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
  Assistant 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
  Associate 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
  Lecturer
  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
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Maria Alexandrou
Tel.: 22893560
Fax: 22892181
e-mail: isa@ucy.ac.cy
http://www.ucy.ac.cy/hisarch-en
THE ARCHAEOLOGICAL RESEARCH UNIT

The Archaeological Research Unit (A.R.U.) collaborates with scholarly organisations in Cyprus and abroad to realise its research objectives. In Cyprus this cooperation involves various governmental services (i.e., the Department of Antiquities and the Geological Survey Department), local authorities (i.e., Municipality of Yeroskipou, Community of Kouklia) and other departments of our own University. Abroad, the A.R.U. 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 A.R.U. 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 (e.g. Greece, Turkey).

For information on the research programmes please visit the Archaeological Research Unit and Department of History and Archaeology websites.

**Director**
Professor Demetrios Michaelides

**Contact details**
Secretary of the Archaeological Research Unit
Irida Chrysafi
Tel.: 22893560
Fax: 22674101
e-mail: irida@ucy.ac.cy
http://www.ucy.ac.cy/aru-en
Aim of the Programme

The programme is run by members of the two Departments in the following fields of specialisation: 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 organised 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 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).

<table>
<thead>
<tr>
<th>Semester</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First semester</strong></td>
<td>Participation in three postgraduate seminars (3x9 ECTS) and in the “Workshop on Byzantine Studies” (3 ECTS)</td>
</tr>
<tr>
<td><strong>Second semester</strong></td>
<td>Participation in three postgraduate seminars (3x9 ECTS) and in the “Workshop on Byzantine Studies” (3 ECTS)</td>
</tr>
<tr>
<td><strong>Third semester</strong></td>
<td>Participation in three postgraduate seminars (3x9 ECTS) and in the “Workshop on Byzantine Studies” (3 ECTS)</td>
</tr>
<tr>
<td><strong>Fourth semester</strong></td>
<td>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)</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Code No. Range</th>
<th>Module Title</th>
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<tbody>
<tr>
<td>500–514</td>
<td>Editorial Techniques and Auxiliary Disciplines</td>
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<tr>
<td>515–529</td>
<td>Theory and Aesthetics</td>
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<tr>
<td>530–549</td>
<td>State and Society</td>
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<tr>
<td>550–569</td>
<td>Culture and Ideology</td>
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</tbody>
</table>

#### 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.

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>BMG 500</td>
<td>Editorial Theory and Practice</td>
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<tr>
<td>BMG 501</td>
<td>Greek Palaeography and Codicology</td>
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<tr>
<td>HIS 502</td>
<td>Latin Palaeography and Diplomastics</td>
</tr>
<tr>
<td>HIS 503</td>
<td>Byzantine Diplomastics</td>
</tr>
<tr>
<td>ARC 504</td>
<td>Epigraphy</td>
</tr>
<tr>
<td>ARC 505</td>
<td>Sigillography and Numismatics</td>
</tr>
<tr>
<td>BMG 509</td>
<td>Editorial Problems of Ecclesiastical Poetry</td>
</tr>
<tr>
<td>BMG 510</td>
<td>Michaelis Pselli Orationes Funerbes</td>
</tr>
<tr>
<td>BMG 511</td>
<td>Patriarchal Documents of Constantinople</td>
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#### 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 civilisation. 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.

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<tr>
<td>BMG 515</td>
<td>Theory and Criticism of Literature in Byzantium</td>
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<tr>
<td>ARC 516</td>
<td>Byzantine Icon Theory</td>
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<tr>
<td>BMG 517</td>
<td>Byzantine Literature: Problems of Categorisation</td>
</tr>
<tr>
<td>BMG 518</td>
<td>Genre Issues</td>
</tr>
<tr>
<td>BMG 519</td>
<td>Byzantine Narratives</td>
</tr>
<tr>
<td>BMG 520</td>
<td>Language and Literature</td>
</tr>
<tr>
<td>BMG 521</td>
<td>Performance and Literature</td>
</tr>
<tr>
<td>HIS 522</td>
<td>Historiography and Historical Thought in Byzantium</td>
</tr>
<tr>
<td>BMG 523</td>
<td>Hagiographical Genres</td>
</tr>
<tr>
<td>BMG 524</td>
<td>Religious Poetry and Hymnography</td>
</tr>
<tr>
<td>BMG 525</td>
<td>Byzantine Autobiographical Discourse</td>
</tr>
<tr>
<td>ARC 526</td>
<td>Facets of Reality in Byzantine Art</td>
</tr>
<tr>
<td>ARC 527</td>
<td>Byzantine Architecture: Principles for the Formation and Use of Space</td>
</tr>
<tr>
<td>BMG 528</td>
<td>Theory and Aesthetics of Byzantine Music</td>
</tr>
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#### 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).

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<tr>
<td>HIS 530</td>
<td>State and Society</td>
</tr>
<tr>
<td>BMG 531</td>
<td>Byzantine Law</td>
</tr>
<tr>
<td>HIS 532</td>
<td>The Economy in the Medieval World</td>
</tr>
<tr>
<td>HIS 533</td>
<td>The Crusades</td>
</tr>
<tr>
<td>HIS 534</td>
<td>Latin Rule in Greek Lands</td>
</tr>
<tr>
<td>BMG 535</td>
<td>Byzantine Masculinities and Femininities</td>
</tr>
<tr>
<td>BMG 536</td>
<td>Private and Public Space in Daily Life</td>
</tr>
<tr>
<td>ARC 537</td>
<td>“The Social Life of Things” in Byzantium</td>
</tr>
<tr>
<td>BMG 539</td>
<td>Monastic Organisation</td>
</tr>
<tr>
<td>HIS 540</td>
<td>Latins and Greeks in the First Crusade (1073–1111)</td>
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<tr>
<td>HIS 541</td>
<td>The Latin Empire of Constantinople</td>
</tr>
<tr>
<td>BMG 542</td>
<td>The Image of the Other in Byzantine Literature</td>
</tr>
<tr>
<td>ARC 543</td>
<td>Dress: The Mirror of Byzantine Society</td>
</tr>
<tr>
<td>BMG 544</td>
<td>Byzantine Outsiders</td>
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#### 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.

**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.

**Seminar Descriptions**

**1. Editorial Techniques and Auxiliary Disciplines** *(code nos. 500–514)*

**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.

**BMG 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.

**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.

**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 familiarises 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 Psellus (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 Psellus, 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 poietological 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.
ethnomusicological material, music in Byzantium inside and outside of liturgical practice are studied.

This seminar examines their formal characteristics not only in relation to the areas of Byzantine culture. Initially, the various ancient Greek testimonies in textual sources (e.g., information about 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 conventions that define one's self-image are indispensable.

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.

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.

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.

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.

This seminar introduces students to one of the most inaccessible eras 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 testimonia 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.

3. State and Society (code nos. 530–549)

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.

What did it mean to be a man or a woman in Byzantine society? How are the male and female realms represented in the world-view, the religious beliefs, the social structures and the political ideology of the Byzantine State and society.

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.

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.

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.

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.

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.

**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.

**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.

**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 Blemmys 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.

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, such as the conquest, feudalism, the civil wars of 1228–1233 and 1456–1460, the coup d’etats 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.

**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 œuvre 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 œuvre 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.
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” (see above, 4c-4d).


For more information on the academic requirements, see the Admission and Attendance Regulations – Application Requirements on page 16 or, consult the Office of Postgraduate Studies, Academic Affairs and Student Welfare Services (tel. 22894021/61) or the Department’s Secretariat.

Contact details
Coordinators of the Programme in Byzantine Studies
Martin Hinterberger (BMG)
Tel.: 22893879
e-mail: siebens@ucy.ac.cy

Alexander Beihammer (HIS/ARCH)
Tel.: 22892177
e-mail: abeihamm@ucy.ac.cy

http://www.ucy.ac.cy/bmg
http://www.ucy.ac.cy/hisarch
## APPENDICES

- Calendar of Academic Year 268
- Organogrammes 269
- Maps 272
- Telephone / Fax Directory 276
<table>
<thead>
<tr>
<th></th>
<th>SPRING SEMESTER 2010-2011</th>
<th>FALL SEMESTER 2011-2012</th>
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### COUNCIL

**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 (ex-officio)
- 1 representative of administrative staff (ex-officio)
- 1 student representative (ex-officio)
- Director of Administration and Finance (ex-officio – non-voting member)

### SENATE

- 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)

### RECTORATE COUNCIL

- Rector
- Vice-rectors
- Director of Administration and Finance

### FACULTY BOARD

- 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

**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

Council

CHARIS CHARALAMBOUS, Chairperson
ANASTASIOS LEVENTIS, Vice-Chairperson
CONSTANTINOS CHRISTOFIDES, Rector

ATHANASIOS GAGATIS, Vice-Rector of Academic Affairs
MARIOS MAVRONICOLAS, Vice-Rector of International Affairs, Finance and Administration

ARIS GEORGIOU, Member
SYMEON KASSIANIDES, Member
POLA KYPRIANIDES, Member
MICHALIS SARRIS, Member
PANICOS TIRLIOUROS, Member

CHARALAMBOS CHARALAMBOUS, Representative of Academic Staff
PANTELOS DAMIANOU, Representative of Academic Staff
President of the Student Union, Member

CHRISTOS CHARALAMBOUS, Representative of Administrative Staff, Member
ANDREAS CHRISTOFIDES, Director of Administration and Finance, Secretary, non-voting member

Senate

CONSTANTINOS CHRISTOFIDES, Rector

ATHANASIOS GAGATIS, Vice-Rector of Academic Affairs
MARIOS MAVRONICOLAS, Vice-Rector of International Affairs, Finance and Administration

LOUIS CHRISTOFIDES, Dean of the Faculty of Economics and Management
STELIOS N. GEORGIOU, Dean of the Faculty of Social Sciences and Education
PANOS PAPANASTASIOU, Dean of the Faculty of Engineering

ANDREAS PAPANICOLAU, Dean of the Faculty of Humanities
CONSTANTINOS S. PATITIKIS, Dean of the Faculty of Pure and Applied Sciences

MICHALIS PIERIS, Dean of the Faculty of Letters

President of the Student Union, Member

CHRISTOS CHARALAMBOUS, Representative of Administrative Staff, Member

ANDREAS CHRISTOFIDES, Director of Administration and Finance, Secretary, non-voting member

Administrative Services

DIRECTOR OF ADMINISTRATION AND FINANCE: ANDREAS CHRISTOFIDES
ACADEMIC AFFAIRS AND STUDENT WELFARE: PHILIPPOS PATTOURAS, Head
FINANCIAL: ANDROULLA THEOPHANOUS, Head
HUMAN RESOURCES: GLAFKOS CHRISTOU, Head
INFORMATION SYSTEMS: AGATHOCLIS SYLIANIDOU, Head
LIBRARY: PHILIPPOS TSIMPOGLOU, Head
RESEARCH AND INTERNATIONAL RELATIONS: GREGORY MAKRIDIS, Head
TECHNICAL: AGIS ELISSEOS, Head

DIRECTOR OF LIBRARY: PHILIPPOS TSIMPOGLOU, Head

DIRECTOR OF ADMINISTRATION AND FINANCE: ANDREAS CHRISTOFIDES
ACADEMIC AFFAIRS AND STUDENT WELFARE: PHILIPPOS PATTOURAS, Head
FINANCIAL: ANDROULLA THEOPHANOUS, Head
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LIBRARY: PHILIPPOS TSIMPOGLOU, Head
RESEARCH AND INTERNATIONAL RELATIONS: GREGORY MAKRIDIS, Head
TECHNICAL: AGIS ELISSEOS, Head

DIRECTOR OF LIBRARY: PHILIPPOS TSIMPOGLOU, Head
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01. University House “Anastasios G. Leventis”
02. Common Teaching Facilities (CTF 01)
03. Faculty of Sciences (FST 01)
04. Faculty of Sciences (FST 02)
05. Indoor Sports Hall (SPF 01)
06. Services Buildings (SBD)
07. Energy Centre (ENC)
08. Photovoltaic Park
09. Campus Supplementary Offices (CSO)
10. Residential A (SRA)
11. Parking Area (PRK 02)
12. Parking Area (PRK 03)
13. Parking Area (PRK 05)
14. Parking Area (PRK 07)
1. Department of History and Archaeology
2. Restaurant
3. Dean of the Faculty of Letters / School of Modern Greek
4. Lecture Rooms
5. Assembly Hall
6. Library
7. Engineering Labs
8. Information Systems Service
9. Dean FH / Department of English Studies
10. Gymnastics room
11. Wing E (Library / Lecture Rooms)
12. Chapel
13. Wing B (EDU Labs)
14. Dean FSSE / Department of Psychology
15. Department of Turkish and Middle Eastern Studies
UNIVERSITY OF CYPRUS
University House “Anastasios G. Leventis” • P.O. Box 20537, 1678 Nicosia
Tel.: (+357) 22894000 • E-mail: info@ucy.ac.cy • http://www.ucy.ac.cy

TEL. FAX
University Council Chairperson 22894011 22894470
Rector’s Office 22894008 22894469
Vice-Rector’s Office (Academic Affairs) 22894002 22894468
Vice-Rector’s Office (International Relations, Finance and Administration) 22894005/6 22894467
Director of Administration and Finance 22894013 22894470

FACULTIES
Economics and Management 22893610 22892481
Engineering 22892233 22892254
Humanities 22892169 22892033
Letters 22892008 22892009
Pure and Applied Sciences 22892786 22892810
Social Sciences and Education 22892060 22892061

ADMINISTRATIVE AND OTHER SERVICES
Academic Affairs and Student Welfare 22894021/4050 22894463
Financial Services 22894106 22894465
Human Resources 22894177 22894480
Information Systems Services 22892130 22894434
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Centre of Continuing Education, Assessment and Development 22894151 22892550
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Legal Counsellor of the University 22894145/4156 22894480
School of Modern Greek 22892028 22892029
University of Cyprus Radio Station 22336225 22339383
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Canteen / Restaurant (Central Campus) 22892006
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Byzantine and Modern Greek Studies 22892360/81 22894490
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Economics Research Centre 22893660 22895027
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