

**2011**

DEPARTMENT OF NUTRITION and DIETETICS

# STUDY GUIDE



**HAROKOPIO UNIVERSITY**





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**DEPARTMENT OF NUTRITION & DIETETICS**

# **STUDY GUIDE**

**Year 2011**





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## PREFACE

The present study guide provides an overview of the Department of Nutrition & Dietetics of Harokopio University, including operation, curriculum, research activities and academic and other staff.

The Department was established in 1992, as “Department of Dietetics”. In 1994 students were admitted for the first time, while in 1999 the name changed to “Department of Nutrition - Dietetics”. The duration of the studies is four years (8 semesters). In 2000-2001 the postgraduate programme in Applied Nutrition and Dietetics was established, while part-time postgraduate studies are also available since 2010.

The aim of the undergraduate programme is to improve health through research, teaching and leadership in human nutrition including basic nutritional sciences and clinical, socio-cultural and community aspects of nutrition.

Education provided in the Department covers a wide range of fields in nutrition and dietetics, combining theoretical teaching with practical training, and keeping up with current scientific developments. Successful attendance of all available courses and hospital training as senior students, as well as successful completion of thesis are required for the Bachelor’s degree (BSc) to be awarded. Research activity is highly encouraged by the Department, promoting scientific knowledge and public health, and contributing to the economic and social development of the country.



The graduates could work in public and private healthcare services (hospitals, clinics, health care centers) and community services (kindergartens, nursing homes, rehabilitation centers, camping), in the sports sector (sports federations, sports clubs, and gyms), in the food industry, in catering units, in academic and technological education institutions, other health – related institutes (e.g. dietetic clinics, gyms.) or free lance dietitians/nutritionists.



## GENERAL INFORMATION

Harokopio University was founded in 1991, and is among the newest tertiary education institutions of Greece, realizing the vision and the will of Panagis Harokopos (1835-1911), and making worthy the assets donated for that purpose by Panagis Harokopos, Evanthia Harokopos-Petroutsis and Spiridon Harokopos. The planning and development of the institution was carried out by the Ministry of Education, according to high international standards.



The University is comprised by four Departments, the Department of Home Economics and Ecology, the Department of Nutrition and Dietetics, the Department of Geography and the Department of Informatics and Telematics. All departments offer four year, full time studies, leading to B.Sc. degrees.

Harokopio University offers high quality education in the abovementioned fields. All majors combine theoretical knowledge with laboratory research and modern technologies. Studies offered by Harokopio University provide balanced combination of scientific knowledge and experimental practice with which our graduates are better equipped in today's demanding society.

Harokopio University is located at 70 El. Venizelou Avenue in Kallithea, 4 km south of the center of Athens, near Ilissos River. Kallithea is a municipality within the wider area of Athens in the Attica Prefecture. Athens, the capital of Greece, has a population of approximately four million people. It is the ancient center of the civilized world and birthplace of most of its culture. The archaeological treasures of the city are well known all over the world.

The basic decision making body of the University is the Administrative Committee, entitled to call meetings of collective University bodies (Senate, Rector's Council, Departmental General Administration, Departmental Board of Directors etc.).

### ***Administration***

The University comprises of the following Administrative units:

- A) Division of Academic Affairs and Human Resources
  - Office of Academic Affairs
  - Human Resources Services
  - Administration Support Office
  - Academic Secretariat (Four Departmental Secretariats)
- B) Financial Services Division
  - Accounting Office
  - Payroll Office

- Procurement Office
- C) International and Public Relations Office
  - Erasmus Studies
- D) Technical Support Office
- E) Information and Technology Office
- F) Legal Services Office
- G) University Library and Information Center
- H) Education and Research Committee

### ***Research Activities***

The University supports both basic and applied research, thus promoting science advancements and providing scientific, research and technological services. The University also encourages the academic staff to take over scientific, research and technological projects granted by international bodies and organizations. Every research project is characterized by transparency, and the results are announced and are accessible to all members of the University Community, who have the right to use them to the fullest respecting the Greek legislation, the European Community regulations and the International Law regarding intellectual rights protection.

Harokopio University has been recognized by the community for its contribution to the fields of science it promotes and has been acknowledged as one of the most rapidly developing universities of Greece, leading to many academic collaborations both on a European and international level.

### ***The NETWORK OPERATION CENTER***

The Network Operation Center (NOC) of Harokopio University was founded in 1997, aiming at the development, management and extension of the integrated (voice and data) communication network of the University. Its priority is to offer high quality services for supporting both teaching and research.

The NOC areas of expertise are:

- Planning, extension and network upgrading (data and voice), as well as their integration.
- Daily help-desk support for the data and voice network of the University
- Management of user accounts.
- Dial-up access for staff and students
- Cabling infrastructure maintenance and support
- Servers' maintenance (e-mail server, web server, file and print server etc.)
- Technical support for the advanced tele-conferencing infrastructure of the University
- Participation in research and development projects.

The NOC contributes to the framework for the support of Information Technology at Harokopio University and is financially supported by the 2<sup>nd</sup> and 3<sup>rd</sup> Community

Support Framework (CSF), as well as the National Strategic Reference Framework (NSRF) 2007-2013 for actions that concern Information Society.

The NOC constitutes a reference point for the integration of modern Information Technology and Telecommunications at the University and the support of advanced services for the members of the academic community.

Harokopio University network is fully switched layer-2 fast Ethernet network, with layer-3 switching capacity. The University network is based on a central core switch, which serves all departments (segments) of the network, and a central router. Each University department is served by its own switch, which is connected with the central switch in a star topology.

The structured cabling is based on the EIA/TIA-568 and EIA/TIA-569 model. It is completely documented and includes more than 800 UTP sockets cabling category 5 & 6, and optical fibers as well.

The network

- offers increased bandwidth and high speed of data transfer for each user of the University connected to the network
- provides remote access to the network (dial-up)
- enables the definition of virtual networks (VLANs) for segregation of work groups independent from the natural topology of the network
- has the possibility of monitoring and controlling the load of traffic (network and services statistics)

The Internet speed is 1 Gbps via the EDET–GRnet interconnections, while the University participates in all the technological developments and upgrades in the framework of EDET–GRnet.

## ***The LIBRARY***

The foundation of Harokopio University in 1991 was followed by the foundation of its central Library which operates as an independent, decentralized service in Department level.

In 1995 the Library and Information Service (LIS) of Harokopio University was organized according to the international rules and standards of Library and Information Science. Anglo-American Cataloguing Rules (AACR2), Subject Headings and Name Authorities of Library of Congress and National Library of Greece are used. Finally, LIS has adopted the Dewey Classification System, 22<sup>nd</sup> ed.



LIS maintains collections of more than 19.000 volumes of books and more than 350 titles of journals, particularly in: Home Economics, Sociology, Finance, European Union, Education, Management, History of Art, History, Nutrition and Dietetics, Medicine, Biology, Mathematics, Physics, Chemistry, Informatics, Geography, Psychology. In general, its material covers all subjects taught by all four university departments.

The European Community Programme for Academic Libraries (introduced in 1996) has contributed to the gradual improvement of LIS in the following areas

- additional personnel was hired,
- collections were organized and enriched
- additional services were offered to the users.

When LIS was founded (1991), it was situated in 120m<sup>2</sup> in the main building of the University. Since 2000 LIS is on the 2<sup>nd</sup> floor of the new building named “Evanthia Petroutsi-Harokopou” and covers about 540 m<sup>2</sup>.

In September 2002, the materialization of “Enhancement, Modernization and Enrichment of the Academic Library of Harokopio University” programme started within the framework of Structural Funds Operational Programme "Education and Vocational Training" II (*Greek acronym*, Ε.Π.Ε.Α.Ε.Κ.). Through the above programme LIS made available a great amount of books, print journals, electronic journals and data bases as well. In addition LIS developed an institutional repository, named “ESTIA” which incorporates postgraduate works and doctoral theses. “ESTIA” is accessible through users’ network in the Library and through the Internet as well.

The library provides a local network for its users. The Library webpage is constantly updated and offers useful links for its users. Through this webpage accessibility is possible, not only to the Subject Portal “DIAITO”, which was developed by the Library, but also to the subject Portal of Social Sciences which was developed in collaboration with other Academic Institutions of Greece (University of Macedonia, TEI of Athens, National and Kapodistrian University of Athens, Athens University of Economics and Business). The Subject Portal “DIAITO” is a database, accessible through the web, which contains references and meta-data for web-pages related to the Nutrition and Dietetic science. The Portal is easily accessible, fast and reliable, since the information provided has been previously evaluated.

At the beginning of each academic year, LIS organises library skills seminars aiming at educating students on the way the library operates so as to sensitise them to anti-plagiarism techniques.

Library’s participation in the Hellenic Academic Libraries Association (Heal-Link) permits access for its users to a great number of electronic journals, databases and e-books.

Through the evolution and development of procedures related to scientific information LIS is capable of serving all members of Harokopio University academic society.

## **STUDENTS AFFAIRS**

### ***Registration***

- Greek students wishing to register at the University have to participate successfully in the National Examinations, conducted by the Ministry of Education. Students from other countries do not participate in this examination.
- Foreign students, Greek students from abroad, distinguished athletes, can study at the University after a selection procedure that is handled by the Ministry of Education. ERASMUS program students can study at the University according to the EU Laws. Non - ERASMUS foreign students have to pass a Greek Language test administered by the University of Athens or by the Aristotle University of Thessaloniki.
- Graduates from other Greek Universities (not exceeding 2% of the current students according to the Greek Law) and chronic diseased candidates (not exceeding 5% of the current students according to the Greek Law), can also can study at the University after a special examination handled by each Department.

There are no tuition fees for undergraduate students.

### ***Health Care***

All students get free insurance covering medical and hospital expenses. There is also a Health Center in the University. ECTS students should have already been provided with the E111 document for health insurance.

### ***Accommodation and Living Expenses***

- The institution does not offer any residential facilities. There is only a limited number of places available at the National Students' Hostels. Rooms and apartments can be rented in private buildings near the University.
- Students have reduced ticket price in public transportation.
- Students that fulfill certain financial criteria have free meals at registered restaurants.
- Books are distributed to registered students free of charge by the Ministry of Education.

### ***Books***

Books are distributed to registered students free of charge by the Ministry of Education.

### ***Career Office***

The Career Office was founded in 1997, co-funded by the European Union and the Ministry of National Education and Religious Affairs. The Career Office aims to be the link between the Harokopio University students with the labour market and their

studies. The connection with the labour market is mainly realised through the organization of various events like “Career Day”, seminars and conferences. Moreover, the Career Office organizes throughout the year various seminars and workshops on relevant topics like “Preparing the CV”, “Personal Statement” etc and offers information on postgraduate studies abroad, scholarships and funding sources.

The function of the Career Office consists of the following activities:

- the organisation of events, seminars and conferences
- counseling and support on issues relevant to postgraduate studies, the labour market, human resources and promotion of graduates to the enterprises.
- the development of various databases (on postgraduate studies, scholarships, etc)
- Information supply (in paper or electronic form, presentation of student/graduate in the market etc).

### ***Counselling Center***

The Student Counseling Center of Harokopio University was ratified in 2001 by the Senate Act . The Center comprises a team of professionally trained counsellors and therapists and is available to all undergraduate and postgraduate students of the university. The Student Counseling Center collaborates with the University’s Career Office throughout the whole academic year aiming at:

- Providing counseling support to students who face personal, adjustment or family/relationship difficulties
- Providing support to students with learning difficulties
- Providing support to students with special needs
- Providing psychosocial support to students
- Providing counseling support to students from different cultures
- Developing students’ learning, social and communicative skills

The Counseling Service provides:

**Personal Counseling** This service aims at helping students with a) personal issues such as adjusting to a new culture or environment, difficulties in decision making, psychosomatic problems, eating disorders , phobias, depression, anxiety, addiction etc.), b) problems related to their studies such as learning difficulties, time management, etc), c) relationship problems with parents and friends, and d) stressful life events (disease, death, disasters etc).

**Group Counseling** A number of different groups based on educational and personal issues meet throughout the academic year. Students who participate in group counseling are committed to attending all sessions organized by each group coordinator.

Group Counselling focuses on the following issues:

- ✓ Personal development and self-esteem
- ✓ Relationship issues

- ✓ Assertiveness
- ✓ Development of creativity
- ✓ Anxiety management
- ✓ Anger management
- ✓ Time management
- ✓ Fostering communication among pupils and teachers
- ✓ Development of learning skills

**Web-counselling** The aim of web counseling is to render psychological counseling services to students via the Internet.

**Other activities** The Student Counseling Centre organizes Conferences related to educational and psychological issues. It also collaborates with schools that run some programs about emotional growth, development of emotional intelligence of the students and improvement of the relationships among students, teachers and parents. It also aims to developing communication skills for teachers.

### ***Academic Calendar (Timetable)***

Each academic year is divided in two semesters, the winter and the spring semester.

- The winter semester starts on the 1<sup>st</sup> September and ends on the 15<sup>th</sup> February .
- The spring semester starts on the 16<sup>th</sup> February and ends on the 30<sup>th</sup> June.

Examination periods are in January, June and September and last 3 weeks each. Exams (oral or written) take place at the end of each semester, i.e. in January for winter semester, in June for spring semester and in September for both.

The academic calendar (timetable) for the Department of Nutrition and Dietetics coincides with that of the University.

Courses do not take place during the following periods:

- From the 1<sup>st</sup> July to 31<sup>st</sup> August
- From the 23<sup>rd</sup> December to 6<sup>th</sup> January (Epiphany Day)
- On Ash Monday
- From Good Monday to the first Sunday after Easter
- Courses do not place during students' elections

The University remains closed during the following dates:

- The National Holiday of the 28<sup>th</sup> October
- 17<sup>th</sup> November
- 30<sup>th</sup> January
- The National Holiday of the 25<sup>th</sup> March
- The Holy Spirit Monday



## THE DEPARTMENT OF NUTRITION and DIETETICS

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### ***General Description***

The aim of the undergraduate programme is to improve health through research, teaching and leadership in human nutrition including basic nutritional sciences and clinical, socio-cultural and community aspects of nutrition. The Department also seeks to provide students with the ability to succeed in a wide variety of employment settings such as hospitals, health care facilities, food and nutrition related industries, catering, community and public health facilities, research centres, government agencies, secondary and higher education, sports clubs and private practices and offers a solid academic background in nutrition and dietetics through rigorous, science-based coursework.

In the last few years, the Department of Nutrition and Dietetics has become one of the most eligible Departments among all Greek Universities (and especially among health related studies).

To graduate students have to complete all the pre-requisite courses and successfully present their *Thesis*.

### ***Research within the Department***

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During their service in the Department, the 21 members of staff have published 775 scientific articles (36.9 articles per member of staff) which have been cited 5913 times (281.5 citations per member of staff) according to the Web of Science (Feb. 2011). One of the indices often used to evaluate the scientific strength and the impact of the work produced by an academic institution, is the Relative Impact factor. This index is calculated after “normalization” of publications and citations data of every University in 250 thematic units. An index value equal to 1 represents the global average. The Department of Nutrition and Dietetics, as the major factor of research carried out at Harokopio University in the biomedical sector, classifies Harokopio University in second place among the Greek Universities -after University of Ioannina- with a score equal to 1.1.

## ***Departmental Staff***

### ***Academic Staff***

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Smaragdi Antonopoulou	<b>Professor</b> Biochemistry
Vaios Karathanos	<b>Professor</b> Food Chemistry and Food Engineering
Labros Sidossis	<b>Professor</b> Nutrition – Dietetics
Fotini Skopouli	<b>Professor</b> Pathology
George Dedoussis	<b>Associate Professor</b> Cell and Molecular Biology
Antonia-Leda Matalas	<b>Associate Professor</b> Nutrition Anthropology
Demosthenes B. Panagiotakos	<b>Associate Professor</b> Biostatistics – Epidemiology of Nutrition
George Boskou	<b>Assistant Professor</b> Food Service Organization and Management
Antonia Chiou	<b>Assistant Professor</b> Chemical Analysis and Synthesis
Elizabeth Fragopoulou	<b>Assistant Professor</b> Biological Chemistry
Nick Kalogeropoulos	<b>Assistant Professor</b> Food and Environmental Chemistry
Stavros Kavouras	<b>Assistant Professor</b> Exercise Physiology and Sports Nutrition
Adamantini Kyriakou	<b>Assistant Professor</b> Bacteriology
Yannis Manios	<b>Assistant Professor</b> Nutrition Assessment & Education
George Nomikos	<b>Assistant Professor</b> Biochemistry
Evangelos A. Polychronopoulos	<b>Assistant Professor</b> Nutrition – Dietetics & Preventive Medicine
Maria Skouroliahou	<b>Assistant Professor</b> Enteral and Parenteral Nutrition
Mary Yannakoulia	<b>Assistant Professor</b> Nutrition and Behavior
Andriana Kaliora	<b>Lecturer</b> Human Nutrition and Foods
Meropi Kontogianni	<b>Lecturer</b> Clinical Nutrition
Roxane Tenta	<b>Lecturer</b> Physiology
Faidon Magkos	<b>Lecturer (elected)</b> Nutrition and Macronutrient Metabolism
George Papanikolaou	<b>Lecturer (elected)</b> Human Molecular Genetics

**Ex-Professors**

Nikolaos Andrikopoulos, *Professor*

Konstantinos Ballis<sup>(2000)†</sup>, *Professor*

Vasileios Stavrinos, *Professor Emeritus*

**Teaching Assistant & Laboratory Staff**

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Kalliopi Karatzi, PhD

Maria Kotsou, PhD

Katerina Skenderi, PhD

Eirini Bathrellou, PhD

Margarita Christea

Marina Krousaki

Panagiota Lianea

Marietta Sitara

Amalia Yanni, PhD

**FOREIGN LANGUAGE INSTRUCTORS**

Violetta Aeginitou, PhD

Nectaria Vlahoyanni

Eleftheria Manailoglou

Eleni Zenakou

Athanassia Zissimopoulou, PhD

**Secretary**

Maria Maraki

☎ +30 210.9549114

**Administration**

Vassiliki Papadopoulou

☎ +30 210.9549111

**Post-graduate studies**

Eleni Sofou

☎ +30 210.9549158

**Web Site**

<http://www.tmimadiaitologias.hua.gr/>

## ***Laboratories***

There are three laboratories which support the educational and research activity: the Laboratory of Chemistry, Biochemistry and Physical Chemistry of Foods, the Laboratory of Biology, Biochemistry, Physiology and Microbiology, and the Laboratory of Nutrition and Clinical Dietetics.

The laboratories are fully equipped and adopt a variety of methods for in vivo and in vitro experiments and research protocols. New technologies and equipment are available for analyzing biological and food samples, assessing nutritional status and body composition, evaluating physical performance, as well as studying metabolic pathways with the use of stable isotopes.

There is also a *Metabolic Unit*, with specially designed rooms and a fully equipped kitchen, for conducting metabolic studies and clinical trials with test meals

## ***Laboratory of Biology-Biochemistry, Physiology and Microbiology***

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The educational purposes and research interests of the Laboratory focus on the following fields: organic chemistry, biochemistry and molecular biology of the cell (kinetics of enzyme reactions, basic principles of biochemical analyses in clinical chemistry, biochemical mechanisms of pathophysiological conditions), genetic predisposition of common diseases, gene-nutrient interactions on human phenotypes, food microbiology, gut microbiology (prebiotics, probiotics), environmental microbiology, biotechnology-genetic engineering, experimental and applied human physiology, nutritional/pharmaceutical agents, pathophysiology, special issues in pathology, pharmacology, toxicology, minerals-vitamins and nutrition.



**Director:** Smaragdi Antonopoulou, Professor

### **Academic staff**

Smaragdi Antonopoulou, *Professor*

Fotini Skopouli, *Professor*

George Dedoussis, *Associate Professor*

Elizabeth Fragopoulou, *Assistant Professor*

Adamantini Kyriakou, *Assistant Professor*

Tzortzis Nomikos, *Assistant Professor*

Maria Skouroliakou, *Assistant Professor*

Roxane Tenta, *Lecturer*

### **Teaching assistant staff**

Maria Kotsou, PhD

### **Laboratory staff**

Panagiota Lianea

### **Administrative staff**

Eudokia Mitsou

### **Laboratory secretariat**

Eudokia Mitsou

**Telephone:** +30 210 9549 301

## ***Laboratory of Nutrition & Clinical Dietetics***

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The educational purposes and research interests of the Laboratory focus on the following fields: human nutrition and metabolism, clinical nutrition, metabolic disorders, childhood obesity, physical activity and health, body composition, nutritional assessment, nutritional epidemiology, nutrition education and health promotion, nutrition anthropology, sports nutrition, Mediterranean Diet, and psychosocial aspects of eating.



**Director:** Labros Sidossis, Professor

### ***Academic staff***

Labros Sidossis, *Professor*

Stavros Kavouras, *Assistant Professor*

Yannis Manios, *Assistant Professor*

Antonia-Leda Matalas, *Associate Professor*

Evangelos A. Polychronopoulos, *Assistant Professor*

Mary Yannakoulia, *Assistant Professor*

Meropi Kontogianni, *Lecturer*

### **Teaching assistant staff**

Katerina Skenderi, PhD

Kalliopi Karatzi, PhD

### **Laboratory staff**

Amalia Yanni, PhD

Eirini Bathrellou, PhD

### **Administrative staff**

Antigoni Tsiafitsa

### **Laboratory secretariat**

Eirini Bathrellou, PhD

**Telephone:** +30 210 9549166

## ***Laboratory of Chemistry, Biochemistry and Physical Chemistry of Foods***

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The educational purposes and research interests of the Laboratory focus on the following fields: food chemistry and biochemistry, food technology, food analysis, food safety and quality, food quality management systems, foods and the environment, nanotechnology applications in foods, bioactive compounds in foods, food legislation.



**Director:** Vaios Karathanos, Professor

### ***Academic staff***

Vaios Karathanos, *Professor*

George Boskou, *Assistant Professor*

Antonia Chiou, *Assistant Professor*

Nick Kalogeropoulos, *Assistant Professor*

Andriana Kaliora, *Lecturer*

### **Laboratory staff**

Margarita Xristea

### **Laboratory secretariat**

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**Telephone:** +30 210 9549306

## The Computer Center

A fully equipped Computer Center is available for the students of the Department, supporting their learning needs, as well as other relevant activities.

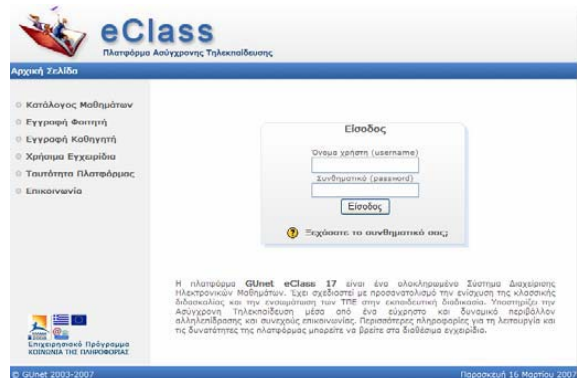
The network offers a high bandwidth for every user of the University Community, provides remote access to the network (dial-up), enables the definition of virtual networks (VLANs) for segregation of work groups independent from the natural topology of the network, has the possibility of monitoring and controlling the load of traffic (network and services statistics)



The Internet speed is 1 Gbps via the EDET–GRnet interconnections, while the University participates in all the technological developments and upgrades in the framework of EDET–GRnet.

## THE e-CLASS

The electronic platform “Harokopio e-Class” is an electronic system for course management. The platform has been designed to upgrade the traditional teaching methods and to integrate modern technology in the educational process. E-class supports asynchronous tele-conferencing through a convenient and dynamic environment of interaction and continuous communication.



The student-user may subscribe to the courses available, gaining access to the educational material uploaded by the academic staff, participating in working groups, forums and conducting self-evaluation tests. Students' account is created either automatically upon subscription to the platform or after sending a relevant request to the platform's management office.

## UNDERGRADUATE STUDIES CURRICULUM

Courses available in each academic semester are seen in the summary table below, followed by a description of each one.

### COURSES

Course Code	Course	Tutoring (hours)	Exercises (hours)	ECTS
<b>1<sup>st</sup> Semester</b>				
ΓΕ0500	Biology of the Cell	2	3	6
ΓΕ1200	General Chemistry	2	3	6
ΙΑ0200	Introduction to Nutrition	2	2	5
ΓΕ1400	Informatics	1	1	3
ΓΕ0701	Organic Chemistry	2	-	3
ΟΚ0301	Biostatistics I	2	1	5
ΞΓ0101	Foreign Language I	3	-	3
			Total	31
<b>2<sup>nd</sup> Semester</b>				
ΓΕ1701	Physiology I	3	1	6
ΓΕ0601	Biochemistry I	2	3	6
ΟΚ0400	Economics	2	-	3
ΓΕ2000	Psychology	2	-	3
ΟΚ0302	Biostatistics II	2	1	5
ΓΕ1600	Physics	2	-	3
ΞΓ0102	Foreign Language II	2	-	3
			Total	29
<b>3<sup>rd</sup> Semester</b>				
ΓΕ1702	Physiology II	3	1	5
ΓΕ0612	Biochemistry II	2	2	5
ΓΕ1901	Food Chemistry	2	2	5
ΓΕ0900	Microbiology	2	1,5	5
ΙΑ1300	Nutritional Assessment	2	2	5
ΙΑ0700	Nutrition Across the Lifespan	2	1	4
ΙΑ1600	Nutritional Epidemiology	2	-	3
			Total	32
<b>4<sup>th</sup> Semester</b>				
ΓΕ0100	Applied Microbiology	2	1,5	5
ΙΑ0503	Nutrition and Macronutrient Metabolism	3	3	6
ΓΕ2401	Physical Chemistry of Foods	2	1	4
ΙΑ3500	Introduction to Clinical Nutrition	1	1	3
ΙΑ0400	Nutritional Anthropology	2	1	4
ΙΑ1103	Pathophysiology I	3	-	3
ΙΑ1200	Pharmacology	2	-	3
			Total	28
<b>5<sup>th</sup> Semester</b>				
ΙΑ0801	Clinical Nutrition I	3	3	6
ΙΑ3301	Enteral and Parenteral Nutrition	2	-	3
ΓΕ2900	Food Service Hygiene	1	1	3
ΙΑ2000	Public Health Nutrition	2	-	3
ΙΑ0504	Nutrition and Micronutrient Metabolism	3	3	6
ΙΑ1900	Nutrition and Exercise	2	2	5
ΙΑ1102	Pathophysiology II	3	-	4
			Total	30
<b>6<sup>th</sup> Semester</b>				
ΙΑ0802	Clinical Nutrition II	3	3	6
ΙΑ3100	Toxicology	2	-	3
ΓΕ0201	Food Service Management	1	2	4

IA3400	Nutrition Counselling and Eating Behavior	2	-	3
IA0601	Molecular Biology and Genetics	2	2	5
IA1800	Nutrition Education	1	2	4
ΓΕ3000	Research Methods	2	1	5
			Total	30
<b>7<sup>th</sup> Semester</b>				
OK0100	Health Economics	2	-	2
IA3800	Disorders of Energy Regulations and Metabolism (E)	2	-	2
IA3700	Clinical Pediatric Dietetics (E)	2	-	2
IA3600	Nutrition and Immunity (E)	2	-	2
ΓΕ3100	Food Biochemistry (E)	2	-	2
ΓΕ3200	Food Legislation (E)	2	-	2
ΓΕ3300	Data Analysis (E)	2	2	2
Students choose at least the number of elective courses needed to obtain the ECTS credits of the semester			Total	6
<b>8<sup>th</sup> Semester</b>				
ΓΕ3400	Human Resource Management	2	-	2
OK0900	Marketing (E)	2	-	2
IA4100	Gene Nutrient Interaction (E)	2	-	2
IA4200	World Nutrition (E)	2	-	2
IA3900	Food Biotechnology (E)	2	-	2
IA4000	Nutrition for Champions (E)	2	-	2
IA4400	Nutrition and Disease Prevention (E)	2	-	2
Students choose at least the number of elective courses needed to obtain the ECTS credits of the semester			Total	6
<b>7<sup>th</sup> &amp; 8<sup>th</sup> Semesters</b>				
ΠΑ2000-1	Practical Placement I & II			30
ΠΤ2000	Dissertation			18
			Total	48
<b>Total ECTS credits for the Undergraduate Studies Programme</b>				<b>240</b>

Course Code: the code referring to each course is the one used by the official computer program of the secretariat.

ECTS: European Credit Transfer System

E: Elective

# COURSE DESCRIPTION

## 1<sup>st</sup> SEMESTER

COURSE TITLE

**BIOLOGY OF THE CELL**

COURSE CODE

ΓΕ0500

TYPE OF COURSE

Obligatory

LEVEL OF COURSE

Undergraduate

SEMESTER

1<sup>st</sup>

NAME OF LECTURER

George Dedoussis, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The purpose of this subject is to provide a straightforward explanation of the function of a living cell, focusing on the ways in which the molecules of the cell, especially the protein, DNA, and RNA molecules, cooperate to create a living system. Topics include introduction to the cell, basic genetic mechanisms, methods, internal organization of the cell, and cells in their social context.

PREREQUISITES

-

COURSE CONTENTS

The chemistry of life. From molecules to the first cell. From procaryotes to eucaryotes. Food and the derivation of cellular energy. The coordination of catabolism and biosynthesis Macromolecules: structure shape and information Cell structure and function. Membrane structure and function. Membrane transport of small molecules and the ionic basis of membrane excitability. Cell junctions, cell adhesion and the extracellular matrix. Cellular organelles. The mitochondrion, chloroplast, peroxisome. Cell to cell signaling: hormones and receptors. Cell nucleus. Replication, transcription and transduction. The cell division cycle. Mitosis-Meiosis. Apoptosis

Laboratory

The Bright Field Microscope. Protozoa. Animal eukaryotic cells. Cell fractionation Root anatomy. Leave Anatomy. Biodiversity (video presentation from the Greek members of the WWV Hellas). Osmosis in human erythrocytes and in plant cells. Mitosis in *Allium cepa*. Human chromosomes; Karyotype analysis. Cell cultures; trypan blue exclusion. Visit at a research center.

RECOMMENDED READING

Cell Biology. Edition 2004, Margaritis et al.  
Notes to Biology. Laboratory training Courses.

TEACHING METHODS

Teaching includes lectures and tutorial lessons.

ASSESSMENT METHODS

The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**GENERAL CHEMISTRY**

COURSE CODE  
GE1200

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
1<sup>st</sup>

NAME OF LECTURER  
Antonia Chiou, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course is the understanding of the structure of matter and its disciplines. On this basis some selected topics of general, as well as, analytical, inorganic, and physical chemistry are discussed. Laboratory practice is intended to:  
conjoin theory with the respective experiments  
improve students' laboratory skills  
(c) familiarize students with the basic laboratory practices applied in chemistry and food chemistry.

PREREQUISITES  
Successful Laboratory practise is prerequisite for the course theory written exam

COURSE CONTENTS  
Energy, matter and life. The atomic structure, atomic and molecular orbitals. Periodic table and periodical properties. Chemical bonds. Hybridization, theories VSEPR, VBT and MOT. Discrimination of matter and properties of solids, liquids and gases. Electrolytes, theories of acid-bases and strength of acid-bases. Solutions: categories, solubility, colloids, colligate properties. Chemical equilibrium, ionic equilibrium and applications, pH, hydrolysis, buffer solutions. Titration. Thermodynamics, enthalpy, entropy, free energy. Thermochemistry, calorimetry. Chemical kinetics, activation energy, catalysis and catalysts. Oxidation and reduction. Fundamentals of electrochemistry, standards reduction potentials, electrolysis, storage cells. Elements with biochemical interest.  
Laboratory practise: Basic laboratory techniques of inorganic chemistry. Determinations of physical constants and quantities. Preparations of solution and solubility of salts. Performance of chemical reactions and estimation of factors that influence chemical equilibrium. Calorimetric determination on solutions. pH-metric measurements. Determinations on chemical kinetics and catalysis. Acid and base titrations on solutions related to foods. Qualitative estimations of osmotic properties.

RECOMMENDED READING  
General Chemistry, Volumes I & II, N.K. Andrikopoulos, Bistikeas Eds, 2006  
Chemistry for Medical Scientists, Kiriakides Eds

TEACHING METHODS  
Teaching includes lectures, laboratory practice, and, in case, homework assignments.

ASSESSMENT METHODS  
In theory student's grade is based on a final written exam. Laboratory practise grade is based both on a written and a practise exam. Student's total performance is assessed by the compensation of both pass grades on Theory and Laboratory modules. Additional evaluation is retrieved from homework assigned to students.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**INTRODUCTION TO NUTRITION**

COURSE CODE  
IAO200

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
1<sup>st</sup>

NAME OF LECTURERS  
Antonia-Leda Matalas, Associate Professor;  
Mary Yannakoulia, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course is to familiarize students with the terminology and basic knowledge of the science of nutrition. Students are expected to understand the concept of nutritional requirements (dietary allowances; recommended dietary intakes) and how these are met through food intake. The course will introduce to students to the macro- and micro-nutrients, their food sources, their biological importance and the basic metabolic pathways that they are involved in, as well as the symptoms of deficiency and toxicity of them.

PREREQUISITES  
-

COURSE CONTENTS  
The course discusses the principles of nutritional requirements and how they are met by the diet, the basis for formulating dietary guidelines, the recommended dietary intakes, and the dietary sources of the each macronutrient and micronutrient. It presents the biological functions, elements of metabolism as well as, the consequences of nutritional deficiencies and toxicities of carbohydrates, dietary fibers, lipids, protein, vitamins, and minerals. The practical sessions of the class include the methodology for evaluating protein quality, the methodology for regimen planning, the use of food composition tables, and the technique for dietary analysis.

RECOMMENDED READING  
Gibney MJ, Vorster HH, Kok FJ. Introduction to Human Nutrition (Editing for the Greek Edition: A-L Matalas and M. Yannakoulia). Athens, Parisianos Editions, 2007.  
Wardlaw GM, Hampl JS, Disilvestro RA. Perspectives in Nutrition. 6<sup>th</sup> ed. McGraw-Hill Companies, 2004.

TEACHING METHODS  
Lectures and practical exercises.

ASSESSMENT METHODS  
Mid-term exam, evaluation of the practical exercises and final exam.

LANGUAGE OF INSTRUCTION  
Greek

COURSE TITLE  
**INFORMATICS**

COURSE CODE  
ΓΕ1400

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
1<sup>st</sup>

NAME OF LECTURER  
Maria Nikolaidou, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of this course is to facilitate students with basic skills regarding computer usage, architecture as well as Internet technology and services. The course also elaborates on the usage of word processing tools, spreadsheets and data base management systems.

PREREQUISITES  
-

#### COURSE CONTENTS

This course focuses on:

- Computer functionality and usability
- Computer architecture: Basic Concepts (CPU, main memory, peripheral devices)
- Computer operating systems
- Computer classification, computer systems
- Personal computers (usage, architecture, Windows-based OS)
- Computer Communication (exercise using Computer Laboratory)
- The Internet
- World Wide Web –HTML programming language
- E-Mail services
- Word processing usage (Practical training with Open Office Writer)
- Page, Paragraph and Page Formatting
- Spreadsheet usage (Practical training with Open Office Calc)
- Functions and Charts
- Processing of dietary data.
- Data base design
- Data Base Management Systems (Practical training with Open Office Base)
- Data handling and queries from databases

#### RECOMMENDED READING

Εισαγωγή στην επιστήμη των Υπολογιστών, Forouzan , Β .Α., Εκδόσεις Κλειδάριθμος  
Εισαγωγή στις τεχνολογίες της Πληροφορικής και των Επικοινωνιών, Τσακνάκης, Φλώρος, Εκδόσεις Κλειδάριθμος

#### TEACHING METHODS

Theoretic lectures and lab training. Course and lecture material is available through an asynchronous e-learning platform.

#### ASSESSMENT METHODS

The course grade is based on a final written exam.

#### LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**ORGANIC CHEMISTRY**

COURSE CODE  
ΓΕ0701

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
1<sup>st</sup>

NAME OF LECTURER  
Tzortzis Nomikos, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objective of the course is to introduce the students to the chemistry of the organic molecules that consist a living being through the lectures of basic topics such as structure of molecules, terminology of organic molecules, isomerism, major classes of organic molecules. This course should help the student to understand the wide distribution of the organic molecules in nature, their importance because of their involvement in all functions of life along with their chemical properties. The understanding of the structure and terminology are prerequisites for the above knowledge therefore a major part of this course is dedicated to the teaching of the new terminology rules. This course is also focused on the isomerism of the organic molecules. The student understands the structure of the molecules and its impact on their physicochemical properties by the utilization of three-dimensional models. Finally, the main classes of organic molecules were presented, especially those molecules implicated in the metabolism of living beings or found in foods. The expected learning outcome of this course is the acquisition by the student of the ability to identify and properly term the organic molecules that is going to meet during his undergraduates studies.

PREREQUISITES  
-

COURSE CONTENTS

Chemistry of carbon. Chemical bonds. Structure and physical properties of organic molecules. Classification, structure and terminology of the basic organic molecules classes. Hydrocarbons, alcohols, ethers, aldehydes, ketones, amines, organic acids. Aromatic molecules: Chemical properties of the aromatic molecules, major classes of aromatic molecules. Heterocyclic compounds. Stereochemistry, stereoisomerism. Optical activity, enantiomerism, diastereoisomerism.

RECOMMENDED READING

Organic Chemistry, Vol. I & II, McMurry, J., Editor: University of Crete, 2002  
Taylor GA. Οργανική Χημεία για Βιολογικές Επιστήμες, Ιατρικές εκδόσεις Λίτσα, 1997

TEACHING METHODS

Teaching includes lectures. The presentation of those lectures can be found on e-class. Throughout the semester organic chemistry exercises are recommended to the students. The students are able to discuss the exercises with the lecturer in person.

ASSESSMENT METHODS

The course grade is based on a final written exam. An examination in the English language is also available for the mobile students.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**BIOSTATISTICS I**

COURSE CODE  
OK0301

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
1<sup>st</sup>

NAME OF LECTURER  
Demosthenes B. Panagiotakos, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course is to provide students with knowledge regarding statistical methods and software used in medical research.

PREREQUISITES  
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COURSE CONTENTS

- Descriptive statistics
- Rates and ratios.
- Sensitivity and specificity, ROC curves.
- Probability theory, Distributions.
- Survival analysis.
- Confidence interval
- Hypothesis testing

RECOMMENDED READING  
«Βιοστατιστική» των Βασ. Σταυρινού & Δημ. Παναγιωτάκου, εκδόσεις Gutenberg, 2007 (in Greek)  
«Αρχές Βιοστατιστικής» (μτφ Ο. Δαφνή), εκδόσεις ΙΩΝ, 2005 (in Greek)  
Biostatistics. Forthofer, Lee, Hernandez. 2<sup>nd</sup> Edit., Academic Press 2009 (in English)

TEACHING METHODS  
Teaching includes lectures and tutorial lessons. The practical sessions include training of the students with data from clinical and observational studies. The official software of the course is the latest version of SPSS.

ASSESSMENT METHODS  
The course grade is based on a final written exam. Completion of all the exercise labs (i.e., 12 assignments) is a prerequisite.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**FOREIGN LANGUAGE I**

COURSE CODE  
EF0101

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
1<sup>st</sup>

NAME OF LECTURER  
Violetta Aeginitou, PhD (English)  
Eleftheria Manailoglou (German)  
Nectaria Vlahoyanni (English)  
Helen Zenakou (German)  
Athanassia Zisimopoulou, PhD (French)

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
Reintroducing and consolidating advanced structures and skills acquired prior to tuition provided by the University. More emphasis is put on Academic Listening and Speaking (presentation skills development) as well as to a shift of focus from the sentence as a grammatical unit to a more cohesive piece of writing. Moreover, students familiarise themselves with field- specific texts and vocabulary. They also practise paraphrasing, summary and referencing skills to avoid plagiarism.

## 2<sup>nd</sup> SEMESTER

COURSE TITLE

**HUMAN PHYSIOLOGY I**

COURSE CODE

ΓΕ1701

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

2<sup>nd</sup>

NAME OF LECTURER

Roxane Tenta, Lecturer

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The purpose of the lesson is the understanding of the principals of the Systems of the human body that coordinate all physiological functions

PREREQUISITES

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COURSE CONTENTS

Molecular Physiology: Homeostasis and the physiology of proteins - Membrane transport proteins and ion channels - Molecular pathways for message transmission

Nervous system: structure and function of the nervous system - biological electricity - ion channels - membrane potential - conduction of action potentials - synaptic potentials - synaptic transmission - the autonomous nervous system

Muscles: skeletal muscle and its contraction - neuromuscular junction - sliding filament theory - smooth muscle - muscle metabolism - contraction of motor units

Endocrine System: features of hormonal signaling - control of hormones

The hypothalamus and the pituitary gland - thyroid hormones and metabolic rate - growth factors - somatic and skeletal growth - control of plasma calcium - the adrenal glands

RECOMMENDED READING

Vander, Sherman, Luciano. Human Physiology

Guyton. Human Physiology

TEACHING METHODS

Teaching includes lectures and practical activity (laboratories).

ASSESSMENT METHODS

The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**BIOCHEMISTRY I**

COURSE CODE  
ΓΕ0601

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
2<sup>nd</sup>

NAME OF LECTURER  
Smaragdi Antonopoulou, Professor  
Tzortzis Nomikos, Assistant Professor  
Elizabeth Fragopoulou, Assistant Professor

**OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)**

The aim of the Biochemistry I course is to introduce the students to the static biochemistry through the lectures of basic topics such as structure of proteins, enzymes, coenzymes, carbohydrates, and lipids. This course should help the student to understand the structure and the chemical properties of the main biomolecules and their effects on the functions of living beings. The understanding of the structure and terminology of the biomolecules are prerequisites for the above knowledge therefore a major part of this course is dealing with the structure and the terminology rules of biomolecules along with the learning of their empirical names under which they are usually found. This course is also focused on the relationship between the structure and the biological roles of the biomolecules. Finally, the most common and biologically important biomolecules are presented. The expected learning outcome of this course is the acquisition by the student of the ability to identify and properly term the most important bioorganic molecules that is going to meet during his undergraduates' studies. The laboratory work helps the student to deeply understand the theory through his personal participation in the lab exercises.

**PREREQUISITES**

Students must complete the Laboratory of General Chemistry (ΓΕ1200) in order to register at the Laboratory of Biochemistry I. Attendance of Laboratory is prerequisite for the course theory written exam.

**COURSE CONTENTS**

Amino acids, peptides, and proteins: Structure of proteins, examples of biologically important proteins such as collagen, elastin, keratin, lysozyme, immunoglobulins, myoglobin, hemoglobin, proteins of muscle. Enzymes: Specificity of enzymes, regulation of their activity, classification, terminology, modes of action. Coenzymes: Classification, structure, mode of action. Carbohydrates: Monosaccharides (terminology, structure, derivatives), oligosaccharides (sucrose, maltose, isomaltose, lactose, raphinose), polysaccharides, (starch, glycogen, dextranes, cellulose, chitin), glycoproteins, proteoglycans. Lipids: Classification, neutral lipids, polar lipids, lipoproteins. Laboratory exercises: Basic analytical methods of isolation, purification, quantitative and qualitative identification of proteins, carbohydrates and lipids.

**RECOMMENDED READING**

Basic Biochemistry, C.A. Demopoulos, S. Antonopoulou, Athens, 2009  
Lehninger Principles of Biochemistry, by David L. Nelson, Michael M. Cox, Publisher: Worth Publishing; 4rth edition

**TEACHING METHODS**

Lectures along with laboratory exercises. Moreover, hourly tutorial concerning the theoretical background of the laboratory exercises is taken place.

**ASSESSMENT METHODS**

50% of the final grade comes from written examinations and 50% comes from the laboratory grade. The laboratory grade includes the grade obtained from written examinations on the laboratory theory (40%), the grade of the laboratory final exercise (30%) and the grade of the laboratory ability and presence (30%).

**LANGUAGE OF INSTRUCTION**

Greek, English (for Erasmus students)

COURSE TITLE  
**ECONOMICS**

COURSE CODE  
OK0400

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
2<sup>nd</sup>

NAME OF LECTURER  
Constantinos Tsamadias, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The purpose of the course is the understanding of the principals of economics within the health care system and reality. Specifically, this course aims at understanding the basic principles of economic theory, both micro and macro level. Students are required to understand and analyze a number of economic problems arising in markets today with emphasis on case studies of real problems.

PREREQUISITES

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COURSE CONTENTS

Economics, Microeconomics, Scarcity Problem, Economic Systems, Circular Flow, Factors Of Production, Production Possibilities Frontier, Production Possibilities Curve, Opportunity Cost, Economic Growth, Market Goods, Demand, Supply, Equilibrium, Elasticities, Theory Of Production, Theory Of Cost, Utility Theory, Market Structures, Macroeconomics, Domestic Product, National Product, Consumption, Saving, Investment, Inflation, Money, Economic Cycles, Budget, Public Goods

RECOMMENDED READING

Σύγχρονη Μικροοικονομική, Κώπτης, Γεώργιος Χ. & Πετράκη-Κώπτη Α., Εκδοτικός Οίκος: ΜΠΕΝΟΥ Ε, 2008.  
Εισαγωγή στην Οικονομική, Roger A. Arnold, Εκδ Επίκεντρο

TEACHING METHODS

Teaching includes lectures.

ASSESSMENT METHODS

The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**PSYCHOLOGY I**

COURSE CODE  
OK0400

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate - basic

SEMESTER  
2<sup>nd</sup>

NAME OF LECTURER  
Katerina Maridaki-Kassotaki, Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The course is designed to deepen students' understanding of the structure of the brain and of core mental abilities such as memory and intelligence. Emphasis is placed on eating disorders and strategies for coping them. The relation between emotions, emotional intelligence and eating disorders is also discussed.

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
To enable students to:  
Understand the structure of the brain and how neurons communicate  
Discuss elements related to memory and intelligence.  
Explain the biological and psychological basis of eating disorders  
Identify the relation between emotions, emotional intelligence and eating disorders

PREREQUISITES  
-

COURSE CONTENTS  
The structure of the brain. The structure of the neurons and how neurons communicate. The biological basis of depression and anxiety. The memory system: Models of the working, semantic and autobiographical memory. Intelligence: The model of multiple intelligences. The theory of emotional intelligence. Eating disorders: Definitions and coping strategies The relation between emotions, emotional intelligence and eating disorders such as anorexia nervosa and bulimia.

RECOMMENDED READING (in Greek & other languages):  
Hayes, N. (2001). Introduction to psychology. Athens: Ellinika Grammata (Greek translation).  
Palmer, R. (2000). Helping people with eating disorders [translated in Greek/2006]. Athens: Parisianos.  
Selected bibliography handed out during the course.

TEACHING METHODS  
Lectures - interactive discussion sessions.

ASSESSMENT METHODS  
Total mark is based on the final exam. Extra credit is optionally given upon completion of assignments. Assignments concern presentation in class of material based on papers or books related to the content of the course.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**BIOSTATISTICS II**

COURSE CODE  
OK0302

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
2<sup>nd</sup>

NAME OF LECTURER  
Demosthenes B. Panagiotakos, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course is to provide students with knowledge regarding advanced statistical methods, i.e., multiple linear regression, and software used in medical research.

PREREQUISITES  
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COURSE CONTENTS

- ANOVA - Multiple testing
- Simple and Multiple Linear Regression
- Logistic Regression

RECOMMENDED READING  
«Βιοστατιστική» των Βασ. Σταυρινού & Δημ. Παναγιωτάκου, εκδόσεις Gutenberg, 2007 (in Greek)  
«Αρχές Βιοστατιστικής» (μτφ Ο. Δαφνή), εκδόσεις ΙΩΝ, 2005 (in Greek)  
Biostatistics. Forthofer, Lee, Hernandez. 2<sup>nd</sup> Edit., Academic Press 2009 (in English)

TEACHING METHODS  
Teaching includes lectures and tutorial lessons. The practical sessions include training of the students with real empirical data from clinical and observational studies. The official software of the course is the latest version of SPSS.

ASSESSMENT METHODS  
The course grade is based on a final written exam. As a prerequisite is to complete all the exercise labs (i.e., 12 assignments).

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE

**PHYSICS**

COURSE CODE

ΓΕ1600

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

2<sup>nd</sup>

NAME OF LECTURERS

Nick Kalogeropoulos, Assistant Professor

Antonia Chiou, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

Students are expected to:

- understand the basic principles of selected Physics topics
- become familiar with the basic principles and laws of Physics that are involved in functions of several human body systems
- become familiar with the basic principles and laws of Physics that are involved in technology applied for the medical treatment and diagnosis.

PREREQUISITES

-

COURSE CONTENTS

Introduction to experimental Physics: Methodology and instrumentation for the measurement of fundamental physical quantities.

Electrochemistry: Electrochemical cells, electrodes and electrodes reactions, cell description conventions, cell potential, standard half-cell potentials, electromotive of metals, batteries.

Optics: The nature of light, electromagnetic spectrum, geometric optics, spectroscopy (instrumentation, applications, techniques).

Thermodynamics: thermodynamics laws, entropy, enthalpy, Gibbs free energy, thermodynamic cycles, gas kinetic theory, heat transfer.

Atomic and Nuclear physics: the atom, the nucleus, nuclear forces, mass-energy equivalence, nuclear energy, nuclear reactors,  $\alpha$ -,  $\beta$ -,  $\gamma$ - radiation, irradiation effects on living organisms, radioisotopes medical applications

RECOMMENDED READING

Proukakis H., Medical Physics Volume I & II, Parisianos Eds, Vol. I: ISBN 960-394-302-9, Vol. II: ISBN 960-394-303-7 Athens, 2004

Serway R.A., Physics for Scientists and Engineers, Volume III.

Psarrakos K. Medical Physics Volume I & II, ISBN: 960-12-1420-8 & ISBN : 960-12-0622-1, University Studio Press Eds, Thessaloniki

TEACHING METHODS

Teaching includes lectures and homework assignments.

ASSESSMENT METHODS

Student's grade is based on a final written exam. Additional performance evaluation is retrieved from in case homework assigned to students.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**FOREIGN LANGUAGE II**

COURSE CODE  
ΕΓ0102

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
2<sup>nd</sup>

NAME OF LECTURERS  
Violetta Aeginitou, PhD (English)  
Eleftheria Manailoglou (German)  
Nectaria Vlahoyanni (English)  
Helen Zenakou (German)  
Athanassia Zisimopoulou, PhD (French)

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
Building on skills and advanced structures acquired during the first semester. The course aims at integrating all skills, in particular debate training is introduced and practised. Students also work on more advanced types of writing such as reports, table and graph description (generalisation, qualification and certainty).and familiarise themselves with field- specific texts and vocabulary.

## 3<sup>rd</sup> SEMESTER

COURSE TITLE

**HUMAN PHYSIOLOGY II**

COURSE CODE

ΓΕ1702

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

3<sup>rd</sup>

NAME OF LECTURER

Roxane Tenta, Lecturer

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The purpose of the course is the understanding of the principals of the systems of the human body that coordinate all physiological functions

PREREQUISITES

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COURSE CONTENTS

- Blood-Cardiovascular system
- Renal System
- Respiratory System
- Gut and Metabolism: gastrointestinal tract-oesophagus and stomach-small intestine-large intestine-the exocrine pancreas, liver and gallbladder
- Control of metabolic fuels
- Inflammation and Immunity
- Reproduction-sexual differentiation and function-fertilization, pregnancy, lactation

RECOMMENDED READING

Vander, Sherman, Luciano. Human Physiology

Guyton. Human Physiology

TEACHING METHODS

Teaching includes lectures and practical activity (laboratories)

ASSESSMENT METHODS

The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**BIOCHEMISTRY II**

COURSE CODE  
ΓΕ0612

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
3<sup>rd</sup>

NAME OF LECTURER  
Smaragdi Antonopoulou, Professor  
Tzortzis Nomikos, Assistant Professor  
Elizabeth Fragopoulou, Assistant Professor

**OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)**

The aim of the Biochemistry II course is to introduce the students to the dynamic biochemistry through the lectures of basic topics such as enzyme kinetics, intermediate metabolism of biomolecules therefore it is focused on the chemical and energetic changes occurred during life phenomena. The general concepts of metabolism and bioenergetics are presented firstly since metabolism is the basis of all aspects of life and living creatures also follow the fundamental laws of chemistry and physics. Finally, the student is introduced to the biochemical reactions of the main biochemical pathways and along with their regulatory mechanisms. The expected learning outcome of this course is the understanding of the molecular logic of the metabolic processes and their importance for the functions of life. The laboratory work helps the student to deeply understand the theory through his personal participation in the lab exercises.

**PREREQUISITES**

students must complete the Laboratory of Biochemistry I (ΓΕ0601) in order to register at the Laboratory of Biochemistry II. Attendance of Laboratory is prerequisite for the course theory written exam.

**COURSE CONTENTS**

Introduction to metabolism: General metabolic pathways, metabolic control

Biological oxidations, electron transfer, respiratory chain, oxidative phosphorylation, photosynthesis, photophosphorylation. Intermediate metabolism of carbohydrates: Main glycolytic pathway, metabolic fate of pyruvate, TCA cycle, production of energy by glycolysis, glyoxylate cycle, gluconeogenesis, glycogenolysis, glycogenesis, metabolism of other carbohydrates, pentose phosphate cycle. Intermediate metabolism of lipids: De novo biosynthesis of fatty acids, biosynthesis of unsaturated fatty acids,  $\beta$ -oxidation of fatty acids, alternative oxidative pathways of fatty acids, ketone bodies, biosynthesis of the sterol ring, bile acids and steroids, metabolism of triacylglycerols and polar lipids. Intermediate metabolism of proteins and amino acids : Proteolytic enzymes, metabolism of the  $-\text{NH}_2$  group, decarboxylation of amino acids, urea cycle. Intermediate metabolism of purines and pyrimidines: Biosynthesis and degradation of purines and pyrimidines, biosynthesis of deoxyribonucleotides.

Laboratory exercises: Enzyme kinetics: Determination of the optimal conditions, determination of  $K_M$ ,  $V_{max}$ , enzyme inhibitors. Determination of total protein, carbohydrates, lipids, metabolites and hormones in natural products and biological samples. Instrumentation and methodology of Clinical Chemistry.

**RECOMMENDED READING**

Basic Biochemistry, C.A. Demopoulos, S. Antonopoulou, Athens, 2009  
Lehninger Principles of Biochemistry, by David L. Nelson, Michael M. Cox, Publisher: Worth Publishing; 4<sup>th</sup> edition

**TEACHING METHODS**

Lectures along with laboratory exercises. Moreover, hourly tutorial concerning the theoretical background of the laboratory exercises is taken place.

**ASSESSMENT METHODS**

50% of the final grade comes from written examinations and 50% comes from the laboratory grade. The laboratory grade includes the grade obtained from written examinations on the laboratory theory (40%), the grade of the laboratory final exercise (30%) and the grade of the laboratory ability and presence (30%).

**LANGUAGE OF INSTRUCTION**

Greek, English (for Erasmus students)

COURSE TITLE  
**FOOD CHEMISTRY**

COURSE CODE  
GE1901

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
3<sup>rd</sup>

NAME OF LECTURERS  
Vaios Karathanos, Professor  
Nick Kalogeropoulos, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The main objective of the course is to understand the properties of basic food ingredients and the principles controlling their alteration, preservation, maintenance and treatment. Within this framework, selective subjects of food science are examined, combined with laboratory exercises. The laboratory work aims: (a) to connect theory with corresponding laboratory experiments, (b) to provide skills of certain food chemistry laboratory techniques, (c) to familiarize students with quantitative determinations-calculations of food composition, making them aware as consumers and as future nutrition professionals.

PREREQUISITES  
Laboratories of General Chemistry (GE1200)

COURSE CONTENTS  
Food chemistry and nutrition. Major food components: water, carbohydrates, amino acids-proteins, oils and fats. Taste, smell, flavour and flavour constituents. Food additives and contaminants. Novel foods and food substitutes. Preservation, processing, packaging and storage of foods. Laboratory Exercises: General and specialised methods for the examination and analysis of foods. Complexometric and redox titrations. Determination of macro- and microconstituents of various foods.

RECOMMENDED READING  
D. Boskou, "Food Chemistry". Gartaganis Editions, Thessalonica (in Greek).  
H.D. Belitz, W. Grosch, P. Schieberle, "Food Chemistry", Tziolas Editions, Thessalonica (translated in Greek).  
N.K.Andrikopoulos, "Food Chemistry and Technology, Vol II. Laboratory Exercises", Harokopio University, Athens (in Greek).

TEACHING METHODS  
Teaching includes lectures and laboratory exercises.

ASSESSMENT METHODS  
Student's grade is assessed by a final written exam, after fulfilling the laboratory exercises, the laboratory written exam and handing in the completed laboratory notebook. The contribution of each trial in the final grade is clearly set.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**MICROBIOLOGY**

COURSE CODE  
ΓΕ0900

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
3<sup>rd</sup>

NAME OF LECTURER  
Adamantini Kyriakou, Associate Professor

OBJECTIVE OF THE COURSE  
The objective of the course is to provide the students with basic knowledge on microbial cell biology and microbial diversity. In the laboratory exercises, students are prepared to handle in safety the microbial cultures (pure culture techniques, isolation techniques) and to estimate the microbial density in a sample.

PREREQUISITES  
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COURSE CONTENTS  
Lecture: Introduction (An overview of Microbiology). The prokaryotic cell (morphology, cell wall, cytoplasmic membrane, flagella and motility, cell inclusions, endospores). Microbial nutrition (Culture media). Microbial growth (population growth, growth cycle of populations, measurement of growth, effect of environmental factors on growth). Microbial metabolism. Energy classes of microorganisms. Microbial genetics (DNA structure, genetic elements, DNA replication). Genetic transfer in prokaryotes (genetic transformation, transduction, conjugation). Viruses (General properties, Bacteriophages, Animal viruses – DNA, RNA viruses, Retroviruses), Viroids, Prions. Fungi (General properties, morphology, cell wall, asexual spores, sexual spores).  
Laboratory: Culture media preparation. Pure culture techniques, streak plate methods, Inoculation of Petri plate. Microscope slide techniques (smear preparation, simple staining, Gram staining, spore staining). Bacterial population techniques. Bacterial viruses. Environmental influences and control of microbial growth (temperature, Ultraviolet light, antimicrobial sensitivity testing). Survey of fungi and molds.

RECOMMENDED READING  
Brock, Biology of microorganisms, M. Madigan, J. Martinko, J. Parker, Prentice Hall, Inc.  
H. J. Benson, 1998, Microbial Applications, Laboratory manual in General Microbiology

TEACHING METHODS  
Teaching includes lectures and laboratory exercises.

ASSESSMENT METHODS  
The course grade is based both on a final written exam (70%) and on the evaluation of the laboratory exercises (30%)

LANGUAGE OF INSTRUCTION  
Greek

COURSE TITLE

**NUTRITIONAL ASSESSMENT**

COURSE CODE

IA1300

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

3<sup>rd</sup>

NAME OF LECTURER

Yannis Manios, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The current module aims to familiarize students with the methods used for the nutritional assessment of groups or individuals at different stages of life (infants, toddlers, children, adolescents, adults, elderly). It is designed to build competence in obtaining and evaluating indicators of nutritional status which include anthropometric, clinical, biochemical, dietary factors.

PREREQUISITES

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COURSE CONTENTS

The module includes:

**Energy balance:** assessment of physical activity and fitness, estimation of basal metabolic rate, resting metabolic rate and energy expenditure during exercise.

**Dietary habits- dietary intake:** 24h dietary recall, Food records (weighed or not), Food Frequency Questionnaires; Analysis and assessment of micro- and macro- nutrient intakes to evaluate dietary inadequacies or excesses. Validity of the dietary assessment methods.

**Anthropometry and body composition:** Assessment of anthropometric measurements (weight, height, BMI, Skin fold calipers); Use of new technologies in body composition assessment [Bioelectrical impedance, double energy X-ray absorptiometry (DXA), ultrasounds].

**Haematological, biochemical and clinical indices:** assessment of clinical biomarkers related to CVD, diabetes, iron deficiency and osteoporosis. Measurement and assessment of blood pressure.

RECOMMENDED READING

Manios Y (2006) Nutritional Assessment: Diet and medical history, anthropometrical, clinical and biochemical indices. Athens: Medical Publications P.C. Paschalidi [In Greek]

TEACHING METHODS

Teaching includes lectures and tutorial lessons with the use the following material and equipment:

- Blood pressure monitors
- Food models
- Diet analysis software (Diet Analysis Plus)
- Food weight scales
- Body weight scales, Stadiometers, Skinfold calipers, Non-elastic tapes for the measurement of body circumferences
- Body composition assessment tools via Bioelectrical Impedance (Akern BIA 101, Tanita ViScan AB140) or Dual energy X-ray absorptiometry (DEXA)
- Bone Sonometer (Sahara Hologic)

ASSESSMENT METHODS

The course grade is based on a final writing examination of theory (70% of the total grade) and on two lab assignments (prepared at home) (30% of the total grade).

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**NUTRITION ACROSS THE LIFESPAN**

COURSE CODE  
IA0700

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
3<sup>rd</sup>

NAME OF LECTURER  
Andriana Kaiiora, Lecturer

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
Students are expected to:

- learn all the physiological changes in different life stages
- learn all the different demands for nutrients across the many stages of life
- have full consideration of how age affects different dietary patterns in lifespan
- learn all the impact of the psychological, besides the physiological changes, during lifetime
- be able to illustrate healthy dietary habits for growth and well-being

PREREQUISITES  
-

COURSE CONTENTS  
Introduction to Lifespan Nutrition - The lifespan approach to nutrition. Pregnancy Physiological and nutritional demands of pregnancy. Lactation and Alternatives to breast-feeding – Infant Feeding. Nutrition and Childhood. Nutrition and Adolescence. The Adult Years. Nutrition, Aging, and the Elderly. Nutrition for health promotion and disease prevention.

RECOMMENDED READING  
Zampelas A., Nutrition during lifetime, Paschalidis, Athens, 463 pages, 2003 (ISBN 960-399-149-1)  
Nutrition: A Lifespan Approach, Langley-Evans S., Wiley-Blackwell, 312 pages, 2009, (ISBN: 978-1-4051-7878-5)

TEACHING METHODS  
Teaching includes lectures and homework assignments.

ASSESSMENT METHODS  
Student's grade is based on a final written exam. Additional performance evaluation is retrieved from homework assigned to students.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**NUTRITIONAL EPIDEMIOLOGY**

COURSE CODE  
IA1600

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
3<sup>rd</sup>

NAME OF LECTURERS  
Evangelos A. Polychronopoulos, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
Aim of the course and its objectives. Epidemiological approach of diet and disease. Topics to be covered include analysis, presentation, interpretation of data from epidemiological studies, addressing questions of dietary intake, nutritional status assessment, anthropometry and biological markers evaluation.

EXPECTED LEARNING OUTCOMES  
Understand the complex and specific diet and diseases relationships. Learn the Methodology and applications of Nutritional Epidemiology. Recognize and compare results of International Nutritional Epidemiological Studies, regarding their biological significance, in the field of Public Health Nutrition and Community Medicine-Nutrition.

PREREQUISITES  
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COURSE CONTENTS  
Epidemiological approach of diet and disease; Steps in the design of a nutritional epidemiological study; Sources of variation in the dietary intake; Biochemical Indicators of nutrient intake – source of bias; Quality assurance in epidemiologic research; Diseases of Western civilization; Screening

RECOMMENDED READING  
Willett W. Nutritional Epidemiology. Oxford 1998  
Margetts B, Nelson M. Design Concepts in Nutritional Epidemiology. Oxford 1998  
Jedrychowski W, Maugeri u. Epidemiology Methods in Studying Chronic Diseases. Luxembourg 2000

TEACHING METHODS  
Teaching includes lectures.

ASSESSMENT METHODS  
The course grade is based on a final written exam(70 %), Essay 20%, Class participation 10%.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

## 4<sup>th</sup> SEMESTER

### COURSE TITLE

**APPLIED MICROBIOLOGY**

### COURSE CODE

ΓΕ0100

### TYPE OF COURSE

Compulsory

### LEVEL OF COURSE

Undergraduate

### SEMESTER

4<sup>th</sup>

### NAME OF LECTURER

Adamantini Kyriakou, Associate Professor

### OBJECTIVE OF THE COURSE

The objective of the course is to focus on the basic microbial groups that are members of the human microbiota and the food microflora. Microorganisms that may take place in food fermentations, or spoil different foods or even food-borne pathogens. The host – parasite relations are also discussed. In laboratory exercises, students are trained to examine different clinical and food samples

### PREREQUISITES

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### COURSE CONTENTS

- Phylogenetic overview of bacteria.
- Description of the most important bacterial groups
- Purple bacteria (Spirillia, Pseudomonads, Acetic acid bacteria, Vibrios, Enteric bacteria, Rickettsias)
- Gram-positive bacteria (Staphylococcus spp., Micrococcus spp., Streptococcus spp., Lactic acid bacteria, Endospore-forming, Propionic acid bacteria).
- The human microflora
- Host-Parasite relationships
- Primary sources of microorganisms found in foods
- Intrinsic and extrinsic parameters of foods that affect microbial growth
- Contamination, preservation and spoilage of: Meats and meat products, Fish and other seafoods, Milk and milk products, Vegetables and fruits, Egg
- Foods, produced by microorganisms (Fermentations)
- Food-born diseases

Laboratory: Bacteriological examination of water – Qualitative tests (Enterobacteriaceae), IMViC tests. The Staphylococci (Isolation and identification from the human microflora). The Streptococci (Isolation and identification from the human microflora). Microbial spoilage of meat (chicken) - Salmonella spp. (Isolation and identification). Isolation of lactic acid bacteria from dairy products. Microbial spoilage of fruits – vegetables. Aflatoxins - Microbial spoilage of peanuts

### RECOMMENDED READING

Brock, Biology of microorganisms, M. Madigan, J. Martinko, J. Parker, Prentice Hall, Inc.  
H. J. Benson, 1998, Microbial Applications, Laboratory manual in General Microbiology  
J. M. Jay, Modern Food Microbiology.

### TEACHING METHODS

Teaching includes lectures and laboratory exercises.

### ASSESSMENT METHODS

The course grade is based both on a final written exam (70%) and on the evaluation of the laboratory exercises (30%)

### LANGUAGE OF INSTRUCTION

Greek

COURSE TITLE  
**NUTRITION AND MACRONUTRIENT METABOLISM**

COURSE CODE  
IA0503

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
4<sup>th</sup>

NAME OF LECTURER  
Labros Sidossis, Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
Understanding the role of digestion, absorption, bioavailability and metabolism of macronutrients.  
Understanding the interaction between macronutrients and intermediated metabolites.  
Linkage between nutrition and metabolism of macronutrients and organs function.

PREREQUISITES  
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COURSE CONTENTS  
Digestion, absorption and metabolism of carbohydrates, lipids, proteins and dietary fibers and the interactions between them. Interactions between nutrients and intermediate metabolites. Association of macronutrients metabolism with organ function and health.

RECOMMENDED READING  
Gropper S, Smith JL, Groff JL. Advanced Nutrition and Human Metabolism. Part 1. Greek translation by Sidossis L. Paschalidis Ed, Athens 2007  
Sidossis L. Human Metabolism-Methods and Techniques. Paschalidis Ed, Athens 2008

TEACHING METHODS  
Teaching includes lectures, tutorial lessons and lab lessons.

ASSESSMENT METHODS  
The course grade is based on lab grade, homework and final written exam.

LANGUAGE OF INSTRUCTION  
Greek

COURSE TITLE  
**PHYSICAL CHEMISTRY OF FOODS**

COURSE CODE  
2401

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
4<sup>th</sup>

NAME OF LECTURER  
Vaios Karathanos, Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course is the study of physicochemical properties of foods and the examination of the effects of the applied physical and chemical processes on the food preservation, safety and quality.

PREREQUISITES  
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COURSE CONTENTS  
Water activity. Water relations and effects on food safety and quality. Reaction kinetics with emphasis on food reactions. Estimation of shelf life of foods. Food dispersions. Gels. Foams. Food emulsions and stability. Chemical thermodynamics. Phase equilibrium. Surface tension. Phase transitions. Melting. Glass transition. Crystallization. Effect of phase transitions on food quality. Food structure. Viscosity, rheological, viscoelastic, mechanical properties of foods. Porosity. Sorption. Diffusion of small molecules into foods. Microencapsulation and controlled release of active ingredients. Water removal processes. Evaporation. Drying. Lyophilisation. Food processing and food packaging. Thermal processes, UHT, HTST. Aseptic packaging. Pasteurization, Sterilization. Novel food processes. Extrusion. Retention of vitamins during processing.

Laboratory:

Physicochemical examination of foods: viscometry and food rheology, calorimetry of foods, diffractometry, Polosimetry, liquid chromatography, gas chromatography, water activity and sorption isotherms  
Food product development  
Kinetics of deteriorative reactions of foods

RECOMMENDED READING  
Schwartzberg, H.G. & Harel, R.W., 1992. Physical Chemistry of Foods. IFT Basic Symposium Series. Marcel Dekker, New York.  
Rockland, L.B. Water Activity: Theory and Applications to Food, 1987. Marcel Dekker, New York.  
Beckett, S.T., 1995. Physicochemical aspects of food processing. Blackie Academic & Professional, London.  
Biliaderis, C., 1998. Physical Chemistry of Foods (Notes). University of Thessaloniki, Thessaloniki.  
Karaiskakis, G.S., 1998. Physical Chemistry. Travlos, Athens.  
Arvanitoyannis, I.S., 2001. Technology, processing and packaging of foods. University Studio Press, Thessaloniki.  
Karathanos, V.T., 2005. Physical Chemistry of Foods (Notes). Harokopion University, Athens.

TEACHING METHODS  
Teaching includes lectures, tutorial lessons and laboratory work.

ASSESSMENT METHODS  
The course grade is based on a final written exam and a work. Final exam contributes 50% of the grade. The grade of the laboratory work is made of the practical work, essays and a final test on the laboratory techniques.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**INTRODUCTION TO CLINICAL NUTRITION**

COURSE CODE  
IA3500

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
4<sup>th</sup>

NAME OF LECTURER  
Mary Yannakoulia, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objective of the course is to accustom students with the nutrition care process, its stages, charting and documentation. By the end of the course, students will be able to assess nutritional risk and to critically evaluate laboratory tests and other indices of nutritional status, in order to estimate nutritional requirements and provide guidelines of nutritional support. They will be, also, able to develop a dietary plan and proceed to dietary modifications according to patients' needs. Finally, nutrition care for overweight/obese patients is included in this course.

PREREQUISITES

It would be helpful for the students to have prior knowledge of the "Introduction to Nutrition" and the "Nutritional Assessment" course contents.

COURSE CONTENTS

- Introduction: Stages of the nutrition care process.
- Nutrition care plan: Charting and documentation.
- Assessment of nutritional status: Screening for nutritional risk, Interviewing the patient, Assessing laboratory tests in clinical practice, Assessing clinical signs, Assessing malnutrition.
- Estimating nutritional needs.
- Dietary intervention: Developing a dietary plan, Dietary modifications in the clinical setting, Diets for the hospitalized patient.
- Implementing nutrition care.
- Evaluating nutrition care outcomes.
- Nutritional care for the hospitalized patient
- Obesity: Nutrition care for the overweight/obese patient.

RECOMMENDED READING

Zampelas A (ed). Clinical Nutrition and Dietetics. Athens: Paschalides Editions, 2005 (in Greek).

Yannakoulia M. Supplementary notes for the "Introduction to Clinical Nutrition" course. Athens: Harokopio University, 2007 (in Greek).

Brylinsky CM. The Nutrition Care Process. In Mahan LK, Escott-Stump S, Krause's Food, Nutrition and Diet Therapy, 11<sup>th</sup> Edition. Philadelphia: Saunders, 2004.

Fischbach F. Manual of Laboratory Tests. Athens: Paschalides Editions 1999 (in Greek).

Fitzgibbons J (ed), Iowa Dietetic Association. Simplified Diet Manual (8<sup>th</sup> Edition). Ames: Iowa University Press, 1999.

Reilly HM. Screening for nutritional risk. Proc Nutr Soc. 1996; 55: 841-53.

TEACHING METHODS

Lectures and Case studies

ASSESSMENT METHODS

Final written exam, as well as evaluation of the case studies/practical assignments.

LANGUAGE OF INSTRUCTION

Greek

COURSE TITLE  
**NUTRITIONAL ANTHROPOLOGY**

COURSE CODE  
IAO400

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
4<sup>th</sup>

NAME OF LECTURER  
Antonia-Leda Matalas, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course is to study the role of cultural and biological factors in shaping eating habits and diets. Specific objectives are to examine the processes of food selection and acceptance, study the evolution of the human diet and the history of food from the most ancient times, and appreciate the influence of religious and other ideologies in forming ethnic diets and food habits in societies around the world.

PREREQUISITES  
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COURSE CONTENTS  
The course examines human dietary habits as a biocultural trait. It discusses the processes of dietary selection and its socio-cultural, environmental, and biological determinants. It examines the role of diet in human evolution and evolutionary aspects of diet and cuisine, the methodologies in studying ancient diets, and the influence of religious and other ideologies in shaping dietary patterns and affecting nutritional status.

RECOMMENDED READING  
Anderson E.N. Everyone Eats: Understanding Food Culture. New York, NY University Press, 2005.  
Marshall DW. Food Choice. London, Blackei Academic and Professional, 1995.  
Ματάλα Α-Λ. Ανθρωπολογία της Διατροφής. Παπαζήσης, Αθήνα, 2008.

TEACHING METHODS  
Class instruction and practical sessions.

ASSESSMENT METHODS  
Written exams.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**PATHOPHYSIOLOGY I**

COURSE CODE  
IA1103

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
4<sup>th</sup>

NAME OF LECTURER  
Fotini N Skopouli, Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
To understand etiology and pathogenesis of human disease states caused by excess or lack of nutrients, mineral and vitamins and disorders requiring specific nutritional intervention

PREREQUISITES  
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COURSE CONTENTS  
General concepts of Disease - Health versus Disease; Heredity, Environment and Disease-Phenylketonouria; Disturbances of growth, cellular proliferation and differentiation; Cellular injury and repair, Hyper-, hypo- vitaminoses; Anemia - Iron deficiency; Anemia - B12 & folic acid deficiency; Alterations in Hemostasis and coagulation; Hypertension, Heart failure; Atherosclerosis, Coronary Heart Disease; Prevention and therapeutic intervention of cardiovascular diseases; Alterations in fluids-Thirst-Diabetes Insibitus; Alterations in electrolytes Interstitial fluid disorders-edema; Alterations in Acid-Base balance; Acute and chronic renal failure; Therapeutic intervention in renal failure; Alterations in endocrine control of growth and metabolism; Steroid and Thyroid disorders; Diabetes Mellitus

RECOMMENDED READING  
McPhee S J, Moutsopoulos H M, eds. Pathophysiology by Litsas Athens, 1<sup>st</sup> edition, 2000  
Adreoli T E, Bennett C J, Carpenter C C J and Plum F, eds. Cecil Essentials of Medicine. by Saunders, Philadelphia, 4<sup>th</sup> edition, 1997 Translated in Greek by Moutsopoulos H M, Litsas Athens, 2000.  
Mattson Porth C. Pathophysiology, Concepts of Altered Health States By J B Lippincot Company, Philadelphia, 4<sup>th</sup> edition 1994

TEACHING METHODS  
Teaching includes lectures.

ASSESSMENT METHODS  
Multiple choice tests at the end of each semester.

LANGUAGE OF INSTRUCTION  
Greek

COURSE TITLE  
**PHARMACOLOGY**

COURSE CODE  
IA1200

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
4<sup>th</sup>

NAME OF LECTURER  
Maria Skouroliakou, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objectives of the course are:

- Understanding the actions and the therapeutic use of pharmaceutical substances
- Learning the indications, contradictions and side effects of medications.

PREREQUISITES

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COURSE CONTENTS

Absorption, Allocation and Removal of Medicine, Pharmacokinetics and Receptors for Medicine, Medicine that affects with the Autonomic Nervous System, Medicine that affects with the Central Nervous System, Medicine that affects the Cardiovascular System, Medicine that affects the Respiratory System, Medicine for the Gastrointestinal Tract, Diuretic Medicine, Hormones of the Pituitary and Thyroid Glands, Insulin and Hypoglycemic Medicine, Steroid Hormones, Chemotherapy, Ant-Inflammatory Medicine and Topical, Medicine used for Various Conditions (Parkinson, Epilepsy, Medicine that affects Blood, Antihyperlipidaemic Medicine, Antiviral Drugs, Anti-Cancer Medicine, Immunosuppressants, Medicine for the Treatment of Osteoporosis, Medicine for the treatment of Obesity, Various Medicine, Visually Presented Case Studies.

RECOMMENDED READING

Howland RD, Mycek MJ. Pharmacology, Parisianou editions.

TEACHING METHODS

Teaching includes lectures and written homework (written paper).

ASSESSMENT METHODS

Assessment is preformed through 2 intermediate non-mandatory written examinations (in the middle of the semester and at the end of the semester). The examination is considered complete if the examination of both tests is successful. At the end of the semester one final written examination is performed for the students that did not take the intermediate tests and for those that did not pass these tests.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

## 5<sup>th</sup> SEMESTER

COURSE TITLE

**CLINICAL NUTRITION I**

COURSE CODE

IA0801

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

5<sup>th</sup>

NAME OF LECTURER

Meropi Kontogianni, Lecturer

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objective of the course is to study the basic principles of medical nutrition therapy and to combine nutrition with biochemistry, physiology, pathophysiology and disease. Students become familiar with the nutritional assessment in the clinical setting and study the nutritional intervention in certain diseases.

PREREQUISITES

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COURSE CONTENTS

Dietary assessment and intervention in patients with diabetes mellitus, hyperlipidemias, cardiovascular disease, renal disease, pulmonary disease, autoimmune disorders and HIV infection – AIDS.

RECOMMENDED READING

Zampelas A. «Clinical Nutrition & Dietetics». Paschalides Publications, 2007.

Gibney MJ, Elia M, Ljungqvist O, Dowsett J. «Clinical Nutrition». Blackwell publishing, 2005.

Mahan LK, Escott-Stump S, Krause's Food, Nutrition and Diet Therapy, 11<sup>th</sup> Edition. Philadelphia: Saunders, 2004.

Thomas B, Bishop J. Manual of Dietetic practice. Blackwell Publishing, 4th Ed, UK, 2007.

Fischbach F. «Manual Of Laboratory And Diagnostic Tests», Lippincott-Raven Publishers.

Kalfarentzos F. «Principles Of Artificial Nutrition. Theory & Practice», Parisianou Publications, 2005

TEACHING METHODS

Teaching includes lectures and tutorial lessons based on case studies.

ASSESSMENT METHODS

40% of the course grade comes from the grade of the tutorial lessons and 60% from the final written exam. To take the final exam students should have a pass in the tutorials

LANGUAGE OF INSTRUCTION

Greek

COURSE TITLE  
**ENTERAL AND PARENTERAL NUTRITION**

COURSE CODE  
IA3301

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
5<sup>th</sup>

NAME OF LECTURER  
Maria Skouroliakou, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objectives of the course are:

- Understanding the available methods for the implementation of enteral and parenteral nutrition.
- Learning the indications and contradictions of enteral and parenteral nutrition.
- Training over the practical use of enteral and parenteral nutrition.
- Training over the methods of assessment of nutritional needs and status of patients with different clinical conditions and the way to implement enteral and parenteral nutrition in these conditions.

PREREQUISITES

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COURSE CONTENTS

Nutritional Support is an integral aspect of patient care. The relationship of cost vs. benefit in nutritional support. Macronutrients and Micronutrients. Water and Electrolytes. Organizing Nutritional Support – Evaluating Nutritional Status. Diagnosis, Detection and Evaluation of Undernourishment. Malnutrition. The Effect of Diet and the Change In Somatic Fat in Body Composition. Metabolic Reaction to Undernourishment, to Infection, and to Injury. Enteral Nutrition. Supplements in Enteral Nutrition. Complications encountered in Enteral Nutrition. Catheterization of the Gastro-Intestinal Tract. Parenteral Nutrition. Complications encountered in Total Parenteral Nutrition (TPN). Catheterization of Central Veins. Flow Rate and TPN Solution Preparation. Planning, Standards and Operation Control of a TPN solution Preparation Unit. Nutritional Support in Chronic Diseases, in Cancer Patients, in Gastrointestinal Disorders, in Liver Disease, in Kidney Diseases, in Diabetes Patients. Endogenous Metabolic Disorders. Nutritional Support During Pregnancy. Nutritional Support in Pediatrics. Minimum of Enteral Nutrition Support that assists in the secretion of gastric hormones in neonates. Nutritional Support in Older Patients. Home Nutritional Support. Drug-Parenteral Nutrition Interactions.

RECOMMENDED READING

Skouroliakou M. Enteral and parenteral nutrition, BIS editions.

TEACHING METHODS

Teaching includes lectures and tutorial lessons.

ASSESSMENT METHODS

Assessment is performed through 2 intermediate non-mandatory written examinations (in the middle of the semester and at the end of the semester). The examination is considered complete if the examination of both tests is successful. At the end of the semester one final written examination is performed for the students that did not take the intermediate tests and for those that did not pass these tests.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE

**FOOD SERVICE HYGIENE**

COURSE CODE

ΓΕ2900

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

5<sup>th</sup>

NAME OF LECTURER

Boskou George, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

To provide knowledge about the food contamination sources, the categories of food-borne pathogens and the appropriate preventive measures in food service units. The training of dietitians in food hygiene is necessary for working in place where they are in direct or indirect contact with foods to be served. The course includes a practical part with participation registry in order to document the training according to the requirements of the National Food Control Authority (ΕΦΕΤ) or certification bodies in relation with food safety.

PREREQUISITES

Adequate attendance registry in practicals and qualifying score in evaluation of practicals.

COURSE CONTENTS

Food contamination, Biological-Chemical-Physical Hazards, Cleaning and Disinfection, Pest and mice control, Hygiene of Establishments and Equipment, Personal health, Waste management, Good manufacturing practices, Food safety training, Food legislation, Hygiene audit, HACCP principles and applications, Food service unit simulation game

RECOMMENDED READING

Codex Alimentarius, Recommended International Code Of Practice, General Principles Of Food Hygiene, CAC/RCP 1-1969, Rev. 4 (2003)

FAO, The use of the hazard analysis critical control point (HACCP) principles in food control, Rome, Food and Agriculture Organization, 1995, (Food and Nutrition Paper No. 58)

Mortimore Sara and Wallace Carol, HACCP: A Practical Approach, 2nd Edition, 2000, Kluwer Academic Publishers

TEACHING METHODS

Lectures and Practical. Attendance is compulsory for the lectures and practicals session. Students are divided in two groups of participation. The practical assignments are for groups of circa 5 persons. Other educational activities: training trip, professional demos. Other methods: multimedia presentations, specific software.

ASSESSMENT METHODS

Adequate attendance is considered to have a registry of 11 out of 13 weeks in practicals. Two absences are accepted if only these are justified. In any other case they have to repeat the module in the next academic year. Written examination is performed during the examination periods of the Faculty. The written exams include subjects to be quoted, small exercises and multiple choice tests; The maximum score of written exams is  $\alpha=70/100$ ; Group assignments are delivered at the end of the semester as electronic files via the e-class platform. The deadline for submission is the Friday of the 13<sup>th</sup> week where representative of the working group signs with the teacher a form of deliverables-receivables. The maximum score for the assignments is  $\beta=30/100$ . Behind schedule assignments get a maximum score  $\beta=20/100$ . The final score is  $(\alpha+\beta)/10$ . There is possibility to elaborate pre-graduate or post-graduate thesis upon issues related with this discipline.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**PUBLIC HEALTH NUTRITION**

COURSE CODE  
IA2000

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
5<sup>th</sup>

NAME OF LECTURER  
Evangelos A. Polychronopoulos, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The role of Nutrition and other environmental factors in the aetiology of major health disease. Conditions predisposing to public health problems. The potential of Public Health Nutrition and the strategies to improve nutrition at an individual, community national and European level.  
Recognise and compare results of International Public Health Nutrition Studies, regarding their biological significance on Food Safety, Consumer Health and Protection in the field of Public Health Nutrition and Community Medicine-Nutrition .

PREREQUISITES  
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COURSE CONTENTS  
Health Problems in developed countries with nutritional links; Overview of international and National Food-Nutrition Policy; Diet in the prevention of cancer; Cancer specific training programmes with European Dimension; National surveillance; Applications at the population level; Novel and functional foods in relation to diet and health; Food safety and GMOs; Traditional diets; Nutrient and energy intakes; Dietary reference values; Nutrition and the elderly; Food patterns in developed countries. Effectiveness of Health Promotion Policies and Programmes; A feasibility intervention study. Nutrition Health systems and priorities; e-health. Electronic Records in Medicine & Public Health Nutrition\*

RECOMMENDED READING  
Public Health Nutrition. MJ Gibney. BM Margetts JM Kearney L Arab.

TEACHING METHODS  
Teaching includes lectures.

Assessment methods  
The course grade is based on a final written exam (80 %), Essay 20%.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**NUTRITION AND MICRONUTRIENT METABOLISM**

COURSE CODE  
IA0504

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
5<sup>th</sup>

NAME OF LECTURER  
Labros Sidossis, Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
Understanding the role of digestion, absorption, bioavailability and metabolism of micronutrients.  
Understanding metabolic regulation and homeostasis. Linkage between micronutrients and metabolic diseases. Understanding the importance of energy balance in body weight maintenance.

PREREQUISITES  
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COURSE CONTENTS  
Micronutrient metabolism (water-soluble vitamins, fat-soluble vitamins, macrominerals, microminerals and ultratrace elements). Body fluid and electrolyte balance. Energy balance and body weight.

RECOMMENDED READING  
Gropper S, Smith JL, Groff JL. Advanced Nutrition and Human Metabolism. Part 2. Greek translation by Sidossis L. Paschalidis Ed, Athens 2007.  
Sidossis L. Human Metabolism-Methods and Techniques. Paschalidis Ed, Athens 2008

TEACHING METHODS  
Teaching includes lectures, tutorial lessons and lab lessons.

ASSESSMENT METHODS  
The course grade is based on lab grade, homework and final written exam.

LANGUAGE OF INSTRUCTION  
Greek

COURSE TITLE  
**NUTRITION AND EXERCISE**

COURSE CODE  
IA1900

TYPE OF COURSE  
Core module

LEVEL OF COURSE  
Undergraduate

SEMESTER  
5<sup>th</sup>

NAME OF LECTURER  
Stavros Kavouras, Assistant Professor

OBJECTIVE OF THE COURSE  
To educate students on the basic principles of sports nutrition and the specifics of dietary support in athletes and physically active individuals.

PREREQUISITES  
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COURSE CONTENTS  
Basic concepts of Exercise Physiology and Biochemistry . Methods of measurement and evaluation of the project's energy expenditure. Regulation of the metabolism of carbohydrates, lipids and proteins in exercise. The role and the importance of vitamins, metals, trace elements, electrolytes and water in the exercise. Regulation of relative supply of carbohydrates, Lipids and proteins in the production of energy. Effect of type, the intensity and duration of exercise to the pace of consumption of energy sources. The effects of exercise in regards to health and the regulation of body weight. The following laboratory exercises oversee experimentally: a) the evaluation of physical activity level, b) the measurement of metabolic rate during exercise, c) the calculation of relative supply of energy substrate, d) the effect of the intensity of exercise and diet in the relative supply of energy substrate, e) the measurement of the maximum oxygen consumption with different protocols, f) the designing of carbohydrate loading and engagement of food at the duration of prolonged exercise and g) the evaluation of athletic dietary supplements.

RECOMMENDED READING  
Melvin H. William. Nutrition for Health, Fitness & sports, Fifth edition

TEACHING METHODS  
Teaching includes lectures and tutorial lessons.

ASSESSMENT METHODS  
The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**PATHOPHYSIOLOGY II**

COURSE CODE  
IA1102

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
5<sup>th</sup>

NAME OF LECTURER  
Fotini Skopouli, Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
To understand etiology and pathogenesis of human disease states caused by excess or lack of nutrients, mineral and vitamins and disorders requiring specific nutritional intervention

PREREQUISITES  
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COURSE CONTENTS  
Inflammation; Immunologic response to foreign agents; Immune system mediated diseases; AIDS, immunodeficiencies; Food allergy; Anorexia- Vomiting- Dysphagia- Dyspepsia- Diarrhea- Constipation Peptic ulcer; Malabsorption-Inflammatory bowel disease; Hepatitis-Liver failure- cirrhosis; Cholelithiasis Pancreatitis-pancreatic insufficiency; Neurological disorders; Alterations in Nutritional status, Weight Loss or Gain; Obesity, Anorexia Nervosa, Bulimia; Disturbances of bone metabolism-osteoporosis-osteomalacia-rickets; Gout

RECOMMENDED READING  
McPhee S J, Moutsopoulos H M, eds. Pathophysiology by Litsas Athens, 1<sup>st</sup> edition, 2000  
Adreoli T E, Bennett C J, Carpenter C C J and Plum F, eds. Cecil Essentials of Medicine. by Saunders, Philadelphia, 4<sup>th</sup> edition, 1997 Translated in Greek by Moutsopoulos H M, Litsas Athens, 2000.  
Mattson Porth C. Pathophysiology, Concepts of Altered Health States By J B Lippincot Company, Philadelphia, 4<sup>th</sup> edition 1994

TEACHING METHODS  
Teaching includes lectures.

ASSESSMENT METHODS  
Multiple choice tests at the end of each semester.

LANGUAGE OF INSTRUCTION  
Greek

## 6<sup>th</sup> SEMESTER

COURSE TITLE

**CLINICAL NUTRITION II**

COURSE CODE

IA0802

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

6<sup>th</sup>

NAME OF LECTURER

Meropi Kontogianni, Lecturer

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objective of the course is to study the basic principles of medical nutrition therapy and to combine nutrition with biochemistry, physiology, pathophysiology and disease. Students become familiar with the nutritional assessment in the clinical setting and study the nutritional intervention in certain diseases.

PREREQUISITES

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COURSE CONTENTS

Dietary assessment and intervention in patients with diseases of the upper and lower gastrointestinal tract, liver disease, neurologic disorders, cancer or in hypermetabolic states (burn, trauma, sepsis).

RECOMMENDED READING

Zampelas A. «Clinical nutrition & dietetics». Paschalides Publications, Athens 2007.

Gibney-Elia-Ljunavist «Clinical Nutrition» Parisianou Publications, Athens, 2009.

Mahan LK, Escott-Stump S, Krause's Food, Nutrition and Diet Therapy, 11<sup>th</sup> Edition. Philadelphia: Saunders, 2004.

Thomas B, Bishop J. Manual of Dietetic practice. Blackwell Publishing, 4th Ed, UK, 2007.

Fischbach F. «Manual of laboratory and diagnostic tests», Paschalides Publications, Athens 2005.

Kalfarentzos F. «Principles of artificial nutrition. Theory & practice», Parisianou Publications, 2005.

TEACHING METHODS

Teaching includes lectures and tutorial lessons based on case studies.

ASSESSMENT METHODS

40% of the course grade comes from the grade of the tutorial lessons and 60% from the final written exam. To take the final exam students should have a pass in the tutorials.

LANGUAGE OF INSTRUCTION

Greek

COURSE TITLE  
**TOXICOLOGY**

COURSE CODE  
IA3100

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
6<sup>th</sup>

NAME OF LECTURER  
Maria Skouroliaou, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objectives of the course are:

- Understanding the actions of toxic substances.
- Recognizing toxicity symptoms.
- Understanding the interactions between drugs and toxics with environmental and nutritional factors.

PREREQUISITES

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COURSE CONTENTS

The toxicology class is mostly generalized, and refers to the following aspects: Toxicity and its Influencing Factors, Toxicokinetics, Forms of Poisoning, Diagnosis and Treatment of Poisoning, Emergency Measures for the Reduction of Toxin Concentration, Toxicological Approach of Widely Used Medicine, Alcohol and Narcotic Poisoning, Animal Poisoning, Phytotoxicology, Agricultural Medicine, Poisoning in the Home Environment, Food Poisoning, Genetically Modified Products.

RECOMMENDED READING

Skouroliaou M. Toxicology, BIS editions.

TEACHING METHODS

Teaching includes lectures.

ASSESSMENT METHODS

Assessment is performed through 2 intermediate non-mandatory written examinations (in the middle of the semester and at the end of the semester). The examination is considered complete if the examination of both tests is successful. At the end of the semester one final written examination is performed for the students that did not take the intermediate tests and for those that did not pass these tests.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**FOOD SERVICE MANAGEMENT**

COURSE CODE  
FE 0201

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
6<sup>th</sup>

NAME OF LECTURER  
Boskou George, Assistant Professor.

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
Objective of this module is to provide to the students the necessary knowledge in order to work in food service units. To teach the principles of systems approach and total quality management. To present issues of business organization and administration as well issues of planning and decision making. Emphasis is laid upon the organization of hospital food service

PREREQUISITES  
Adequate attendance registry in practicals and qualifying score in evaluation of practicals

COURSE CONTENTS  
Systems approach, Total quality management, Organization and administration, Planning and decision making, Standards of total quality control, Hospital food services, Menu design and product development, Food & beverage management, Special diets for hospitals

RECOMMENDED READING  
Spears, M.C. Foodservice Organizations. 6th Edition. Pearson Prentice Hall. 2006  
Goetsch, David L., Davis, Stanley 1931-. Quality management: introduction to total quality management for production, processing, and services. New Jersey, Pearson Prentice Hall 2006  
Omachonu, Vincent K., Ross, Joel E. Principles of total quality, Boca Raton, FL : CRC Press c2004

TEACHING METHODS  
Lectures & Practical. Students are divided in two groups of participation for practicals; Attendance is compulsory for the practicals; There personal assignments for practicals; Other educational activities: training trip, professional demos; Other methods: multimedia presentations, specific software.

ASSESSMENT METHODS  
Adequate attendance is considered to have a registry of 11 out of 13 weeks in practicals. Two absences are accepted if only these are justified. In any other case they have to repeat the module in the next academic year  
Written examination is performed during the examination periods of the Faculty. The written exams include subjects to be quoted, small exercises and multiple choice tests; The maximum score of written exams is  $\alpha=80/100$ ; Personal assignments are delivered at the end of the semester as electronic files via the e-class platform. The deadline for submission is the Friday of the 13<sup>th</sup> week where representative of the group signs with the teacher a form of deliverables-receivables. The maximum score for the assignments is  $\beta=20/100$ . Behind schedule assignments get a maximum score  $\beta=12/100$ . The final score is  $(\alpha+\beta)/10$ . There is possibility to elaborate pre-graduate or post-graduate thesis upon issues related with this discipline.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**NUTRITION COUNSELLING AND EATING BEHAVIOR**

COURSE CODE  
IA3400

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
6<sup>th</sup>

NAME OF LECTURER  
Mary Yannakoulia, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objective of the course is to accustom students with the variety of factors influencing eating habits as well as with the methods and techniques of nutrition counselling and dietary behavior change. Students are expected to be able to encounter problems and difficulties arising in dietary interventions, with regards to patients' motivation and non-adherence to dietary guidelines and goals.

PREREQUISITES

It would be helpful for the students to have prior knowledge of the "Introduction to Clinical Nutrition", the "Nutritional Assessment" and the "Clinical Nutrition and Dietetics I and II" course contents.

COURSE CONTENTS

- Introduction to dietary change in clinical practice
- The role of dietitian as a skilful helper
- Factors influencing food choices and preferences, with special emphasis on children/adolescents and overweight/obese people.
- Theories of dietary behavior change: Transtheoretical model (stages of change) and other theories.
- Theories of therapeutic intervention in eating behavior: applications of the motivational interviewing and cognitive behavioral therapy in dietary practice.
- The stages/steps of the dietary intervention.
- A nutrition counselling session: verbal and non-verbal communication, dealing with resistance.
- Dietary behavior change: applications and practical tools for specific diseases: obesity, eating disorders, diabetes mellitus type 2, cardiovascular disease.
- Problem-solving in clinical practice, dealing with non-compliance or non-adherence.
- Maintaining dietary changes.

RECOMMENDED READING

Zampelas A (ed). Clinical Nutrition and Dietetics. Athens: Paschalides, 2005 (in Greek).

Yannakoulia M. Lecture notes for the "Nutrition Counseling and behavior Course". Athens: Harokopio University, 2009 (in Greek).

Snetselaar LG. Counseling for change. In Mahan K, Escott-Stump S (eds). Krause's Food, Nutrition and Diet Therapy, 11<sup>th</sup> Edition. Philadelphia: Saunders, 2004.

Rollnic S, Mason P, Butler C. Health Behavior Change: A Guide for Practitioners. Edinburgh, Churchill Livingstone, 1999.

Rapoport L, Carpenter J, Pearson D. Achieving behavioral change. In Briony Thomas (ed) in conjunction with the British Dietetic Association. Manual of Dietetic Practice. Oxford: Blackwell Science, 2001.

Gable J. Counselling skills for dietitians. Oxford: Blackwell Science, 1997.

Bauer K, Sokolik C. basic Nutrition Counseling skill development. Belmont: Wadsworth/Thomson Learning, 2002

TEACHING METHODS

Lectures and case studies/role playing.

ASSESSMENT METHODS

Final written exam.

LANGUAGE OF INSTRUCTION

Greek

COURSE TITLE

**MOLECULAR BIOLOGY AND GENETICS**

COURSE CODE

IA0601

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

6<sup>th</sup>

NAME OF LECTURER

George Dedoussis, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objective of the course is the understanding the genetic aetiology of complex diseases like obesity, hyperlipidemia, diabetes, inborn errors of metabolism. The impact of environmental factors namely nutrition, alcohol intake, smoking, physical activity will also assessed, as well as their interaction with the genotype.

PREREQUISITES

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COURSE CONTENTS

Genetics and the phenotype of our biosphere. Genetics and health. Mendelian genetics. Principle of segregation. Symbols and terminology. Monohybrid crosses. Genetics versus environmental effects. Molecular definition of a gene. Organization of genes on chromosomes. Multiple alleles. Probability in pedigree analysis. Modern evaluations of Mendel's conclusions. Meiosis and Mendel's principles. Sex linked inheritance. Hybridization techniques (Southern blotting, Northern Blotting, Western Blotting). DNA cloning, DNA Engineering, Gene replacement and transgenic animals. Genetics of metabolic diseases (alcaptonuria, phenylketonuria). G6PD deficiency. A1-antitrypsin deficiency. Familial Hypercholesterolemia. Cytogenetics (karyotype analysis, frequent chromosomal disorders), Prader Willi and Angelman syndromes, Clinical genetics (pedigree analysis, genetic counseling, amniocentesis, chorionic villus sampling). Human Genome Project, Hap Map project.

*Laboratory*

- DNA extraction from human leucocytes or from liver specimen
- Spectrophotometric analysis of DNA
- Melting point determination
- Polymerase Chain Reaction (PCR) of LDL-R gene
- Restriction Fragment Length Polymorphisms (RFLPs)
- Electrophoresis of PCR products in agarose gels
- Denaturing Gradient Gel Electrophoresis (DGGE)
- Study of Automated Sequencing results (mutation analysis)
- Pedigree analysis (Family studies)
- Making a Karyotype

RECOMMENDED READING

Principles of Medical Genetics (Gelehrter, Collins, Ginsburg)  
Genetics. A Mendelian Approach, Russell.

TEACHING METHODS

Teaching includes lectures and tutorial lessons.

ASSESSMENT METHODS

Written test and practical examination.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE

**NUTRITION EDUCATION**

COURSE CODE

IA1800

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

6<sup>th</sup>

NAME OF LECTURER

Yannis Manios, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The current module aims to build competence in designing and implementing nutritional intervention programmes at different stages of life (childhood, adulthood) in groups or individuals. Through this course, students will be educated on and familiarised with the most important behavioural/cognitive tools whereas the use of interactive techniques will enhance understanding and subsequent use of these tools in clinical practise.

PREREQUISITES

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COURSE CONTENTS

- Contemporary nutrition- and physical activity related issues and the need of interventions –Determinants of food choices and physical activity levels with a special emphasis on socio-cultural factors
- Health behavioural change models and their application in nutrition interventions
- Social Cognitive Theory
- Health Belief model
- Theory of Reasoned Actions/ theory of planned behaviour
- Transtheoretical model of change and Stages of Change
- Motivational interviewing
- PRECEDE-PROCEED
- Intervention Mapping
- Putting theory into practice: designing a nutrition intervention programme
- Establishing a relationship between dietician and patient – Dieticians' traits promoting behavioural changes - Counselling obese/ diabetic patients-Body Image
- Intervention programmes aiming to promote healthy lifestyles, prevent or treat obesity and other obesity-related health problems.

RECOMMENDED READING

Manios Y (2007) Nutrition Education: from theory into practice. Athens: Medical Publications P.C. Paschalidi  
Bauer K & Sokolik C (2001) Basic Nutrition Counseling Skill Development. US: Thomson Brooks/Cole

TEACHING METHODS

Teaching includes lectures and tutorial lessons with the use of p/c.

ASSESSMENT METHODS

The course grade is based on a final oral exam, an assignment (prepared at home) and an oral presentation of the assignment.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**RESEARCH METHODS**

COURSE CODE  
ΓΕ3000

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
6<sup>th</sup>

NAME OF LECTURER  
Demosthenes B. Panagiotakos, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course to provide students with knowledge regarding the methods used in nutrition research.

PREREQUISITES  
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COURSE CONTENTS  
Bioethics. Design of observational studies, and clinical trials. Errors and bias in research. Development of questionnaires. Validation methods. Meta-analysis. How to present your data. How to write a paper.

RECOMMENDED READING  
Παναγιωτάκος ΔΒ., (2006). Μεθοδολογία της έρευνας και της Ανάλυσης δεδομένων, για τις επιστήμες της υγείας, εκδόσεις Β. Κωστάκη  
Ιωαννίδης Ι., (2002). Αρχές Αποδεικτικής Ιατρικής, εκδόσεις Λίτσας.

TEACHING METHODS  
Teaching includes lectures and tutorial lessons.

ASSESSMENT METHODS  
The course grade is based on a final written exam and students assignments.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

## 7<sup>th</sup> SEMESTER

COURSE TITLE

**HEALTH ECONOMICS**

COURSE CODE

OK0100

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

7<sup>th</sup>

NAME OF LECTURER

-

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

This course aims at analyzing health markets and the particularities of health as consumable good. Students acquire knowledge in the areas of health economics, financing health markets, methods of economic evaluation, and costing methods in the health care environment.

PREREQUISITES

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COURSE CONTENTS

Basic principles of health care systems, health markets, the cost of health, measuring health (QALYs; DALYs); economic evaluation, reimbursement methods of health care professionals, financing health markets; productivity and efficiency in health markets.

RECOMMENDED READING

The economics of health reconsidered. Rice T. 2<sup>nd</sup> ed. Health Administration Press 2003

Τα οικονομικά της υγείας Θεωρία και πολιτική, Συγγραφέας: Υφαντόπουλος, Γιάννης Ν., Εκδ. ΤΥΠΩΘΗΤΩ 2003

TEACHING METHODS

Teaching includes lectures.

ASSESSMENT METHODS

The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**DISORDERS OF ENERGY REGULATION AND METABOLISM**

COURSE CODE  
IA3800

TYPE OF COURSE  
Elective

LEVEL OF COURSE  
Undergraduate

SEMESTER  
7<sup>th</sup>

NAME OF LECTURER  
Labros Sidossis, Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objectives of the course will be:

- To comprehend the pathophysiology of metabolic disorders like obesity, atherosclerosis, metabolic syndrome, diabetes and osteoporosis.
- To understand the role of nutrition in the prevention and treatment of the above mentioned metabolic disorders.
- To develop critical thinking skills through bibliography research and lectures from experts in selected scientific fields.

PREREQUISITES  
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COURSE CONTENTS  
The pathophysiology and metabolic regulation of common metabolic disorders like obesity, atherosclerosis, metabolic syndrome, diabetes and osteoporosis.

RECOMMENDED READING  
"Cardiometabolic risk" by A. Melidonis  
Selected original papers

TEACHING METHODS  
Teaching includes lectures by experts in respective fields.

ASSESSMENT METHODS  
The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION  
Greek

COURSE TITLE

**CLINICAL PEDIATRIC DIETETICS**

COURSE CODE

IA3700

TYPE OF COURSE

Optional

LEVEL OF COURSE

Undergraduate

SEMESTER

7<sup>th</sup>

NAME OF LECTURER

Mary Yannakoulia, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objective of the course is to accustom students with the nutrition care process applied in young patients (infants, toddlers, children and adolescents). Student are expected to acquire competencies with regard to the assessment of nutritional status of ill young people, in clinical settings, and to be able to design and apply effective interventions for the support of children and adolescents with nutrition-related health problems.

PREREQUISITES

It would be helpful for the students to have prior knowledge of the "Introduction to Clinical Nutrition" and the "Nutritional Assessment" course contents.

COURSE CONTENTS

- Assessment of the nutritional status of children and adolescents in the clinical setting.
- Eating behavior of children and adolescents.
- Positive energy balance and weight management.
- Malnutrition in hospitalized on non-hospitalized children.
- Nutrition intervention in children with diabetes mellitus type I.
- Nutrition intervention in children with cystic fibrosis.
- Dietary modifications for children with inborn errors of metabolism: disorders of the protein metabolism (phenylketonuria, homocysteinuria, maple syrup disease) and disorders of carbohydrate intolerance (galactosemia).
- Nutrition intervention in children with dislipidemias, disorders of the gastrointestinal system, kidney diseases..
- Dietary modifications in food allergies.
- Nutritional management in eating disorders.

RECOMMENDED READING

Hendricks KM, Duggan C & Walker WA. Handbook of Clinical Pediatric Dietetics (translation in Greek). Athens: Parisianou Editions, 2000.

Walker & Watkins, Nutrition in Pediatrics: Basic Science and Clinical Applications, 3<sup>rd</sup> edition. Hamilton: BC Decker, 2003.

Shaw V, Lawson M. Clinical pediatric dietetics. Oxford: Blackwell 2001.

Parkman Williams C. Pediatric manual of clinical dietetics. American Dietetics Association, 1998.

Suskind R, Lewinter-Suskind L. Textbook of pediatric nutrition. New York: Raven Press 1993.

Lifshitz L. Childhood nutrition. Boca Raton: CRC Press 1995.

TEACHING METHODS

Lectures and case studies.

ASSESSMENT METHODS

Final written exam.

LANGUAGE OF INSTRUCTION

Greek

COURSE TITLE  
**NUTRITION AND IMMUNITY**

COURSE CODE  
IA3600

TYPE OF COURSE  
Elective

LEVEL OF COURSE  
Undergraduate

SEMESTER  
7<sup>th</sup>

NAME OF LECTURER  
Fotini Skopouli, Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
To understand the interaction and linkages between nutrition and immune system and to provide understanding of the practical problems associated with evaluating nutritional and immune status in the field

PREREQUISITES  
-

COURSE CONTENTS  
Evaluation of the immune function; Severe malnutrition and immunity; Infections, Nutrition and immunity; The pregnant and lactating woman; Nutrition and Allergy; Diarrhea and other gastrointestinal diseases; Micro flora of the intestine, Probiotics and immune system in pathological conditions; Trace elements, minerals and immunity; Dietary fats and immunity; HIV infection and nutrition

RECOMMENDED READING  
M Eric Gerswin et al: Handbook of Nutrition and Immunity. Humana Press 2004

TEACHING METHODS  
Lectures

ASSESSMENT METHODS  
Multiple choice tests at the end of each semester

LANGUAGE OF INSTRUCTION  
Greek

COURSE TITLE  
**FOOD BIOCHEMISTRY**

COURSE CODE  
ΓΕ3100

TYPE OF COURSE  
Optional

LEVEL OF COURSE  
Undergraduate

SEMESTER  
7<sup>th</sup>

NAME OF LECTURER  
Antonia Chiou, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
Students are expected to become familiar with the biochemical reactions and alterations that take place during processing and storage of foods, understand the major biochemical and physicochemical changes that are expected to occur during processing and storage for each food category, understand the mechanisms through which the biochemical changes occur during processing and storage of foods, be informed for the potential uses and applications of food biochemical changes in food technology.

PREREQUISITES  
Basic principles of food chemistry, physical chemistry of foods, nutrition

COURSE CONTENTS  
Biochemical properties of macro- and micro- nutrients and their effects on food quality and nutrition. Biochemical alterations of processed and unprocessed foods. Biochemical changes in foods during processing and storage. Applications in food categories: fruits and vegetables, dairy products, meat and meat products, cereals and bakery products, wine and alcoholic drinks. The enzymes in food analysis. Food allergens.

RECOMMENDED READING  
Vaphopoulou – Mastrogiannaki A., Food Biochemistry, Zitis Eds, Thessaloniki, (ISBN960-431-830-6)  
Food processing and preservation, Bloukas I., Stamoulis Eds, ISBN:960-351-525-6, 2004  
Food Biochemistry and Food Processing, Y. H. Hui, (Editor) ISBN: 978-0-8138-0378-4, 2006, Wiley-Blackwell

TEACHING METHODS  
Teaching includes lectures and homework assignments.

ASSESSMENT METHODS  
Student's grade is based on a final written exam. Additional performance evaluation is retrieved from homework assigned to students.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE

**FOOD LEGISLATION**

COURSE CODE

ΓΕ3200

TYPE OF COURSE

Optional (non compulsory)

LEVEL OF COURSE

Undergraduate

SEMESTER

7<sup>th</sup>

NAME OF LECTURERS

Boskou George, Assistant Professor.

Kalogeropoulos Nikolaos, Assistant Professor.

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

Objective of this module is to provide to the students basic knowledge about legal issues related with the production and distribution of food. To make the students familiar with the otherwise difficult legal texts, as well as with the systems of legislative codes. To present the evolution in food legislation and the methods to make updates of current legislation. Finally to present the basis for legal protection of the students as consumers and future professionals in the food sector.

PREREQUISITES

-

COURSE CONTENTS

Legislation structure (national and european), Market code, Hygiene code, Food labeling, Nutritional Claims, Water quality, Wines and spirits, Microbiological criteria, Food safety objectives, Chemical criteria for food contact materials, contaminants and residual substances, Official food control, Horizontal legislation of EU, Codex Alimentarius, HFA - EFSA – SANCO – RASFF, National accreditation system, legislation about dietary office, legislation for starting a business

RECOMMENDED READING

Legislation texts of EU and standard texts of Codex Alimentarius

A brief guide to understand and retrieve legal texts (teachers handouts)

TEACHING METHODS

Lectures. Attendance is not compulsory for the lectures; There are assignments for groups of 2-3 students; Other educational activities: lectures by specialists.

ASSESSMENT METHODS

Written examination is performed during the examination periods of the Faculty. The written exams include subjects to be quoted, small exercises and multiple choice tests; The maximum score of written exams is  $\alpha=70/100$ ; Group assignments are delivered at the end of the semester as electronic files via the e-class platform. The deadline for submission is the Friday of the 13<sup>th</sup> week where representative of the group signs with the teacher a form of deliverables-receivables. The maximum score for the assignments is  $\beta=30/100$ . Behind schedule assignments get a maximum score  $\beta=15/100$ . The final score is  $(\alpha+\beta)/10$ .

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**DATA ANALYSIS**

COURSE CODE  
ΓΕ3300

TYPE OF COURSE  
Elective

LEVEL OF COURSE  
Undergraduate

SEMESTER  
7<sup>th</sup>

NAME OF LECTURER  
Demosthenes B. Panagiotakos, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course to provide students with knowledge regarding multivariate statistical methods and time series analysis.

PREREQUISITES  
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COURSE CONTENTS

- Multivariate data analysis (PCA, Factor, Cluster and discriminant).
- Non-parametric statistics
- Time series analysis.

RECOMMENDED READING  
Πολυμεταβλητή Ανάλυση Δεδομένων, Δ. Καρλής, 2007  
Instructor's Notes.

TEACHING METHODS  
Teaching includes lectures and tutorial lessons.

ASSESSMENT METHODS  
The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

## 8<sup>th</sup> SEMESTER

COURSE TITLE

**HUMAN RESOURCE MANAGEMENT**

COURSE CODE

ΓΕ3400

TYPE OF COURSE

Compulsory

LEVEL OF COURSE

Undergraduate

SEMESTER

8<sup>th</sup>

NAME OF LECTURER

Anna Saiti, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

In essence, the aim of the course is to contribute, in a creative way, to the better understanding of the organisational effectiveness of Greek schools – and hence their effective management – and to explore the effects of the management process on human behaviour as well as the relationship between organisational performance human resource management.

PREREQUISITES

-

COURSE CONTENTS

Approaches to organisation and human resource management, Human Resource planning, Staffing the organization: job description, recruitment, methods of selection, Training and development, Methods of Appraisal, job evaluation, pay and benefits, Human Resource information system.

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RECOMMENDED READING

Vaxevanidou, M. & Reklites, P. (2008). Management human resource. Athens: Probobos Publications (in Greek)

Papalexandri, N. & Bouradas, D. (2003). Human Resource Management. Benou Publications (in Greek).

TEACHING METHODS

Teaching includes lectures.

ASSESSMENT METHODS

The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**MARKETING**

COURSE CODE  
OK0900

TYPE OF COURSE  
Optional

LEVEL OF COURSE  
Undergraduate

SEMESTER  
8<sup>th</sup>

NAME OF LECTURER  
George Malindretos, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course is the understanding of the core issues concerning modern holistic Marketing Management, with special emphasis to the Marketing of Services and Customer Satisfaction and Policies.

PREREQUISITES  
-

COURSE CONTENTS  
The course's content includes the introduction in the fundamental concepts of holistic Marketing, internal and external customers, market research and target groups, consumer behaviour and customer satisfaction-loyalty, life cycle and marketing strategies, products Vs services marketing, communication and promotion techniques, advertising goals, design and budget, distribution channels and Logistics, Value Chain and Marketing.

RECOMMENDED READING  
Kotler, Philip, Introduction to Marketing Management, Gkiourdas B., 2001  
Gounaris S., Services Marketing, Rosili, 2002.

TEACHING METHODS  
Teaching includes lectures.

ASSESSMENT METHODS  
The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**GENE NUTRIENT INTERACTIONS**

COURSE CODE  
IA4100

TYPE OF COURSE  
Elective

LEVEL OF COURSE  
Undergraduate

SEMESTER  
8<sup>th</sup>

NAME OF LECTURER  
George Dedoussis, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course is the study for the role of action of natural products on gene expression in in-vitro cell systems as well as in-vivo experimental conditions. The students are exposed with the new findings coming out from the decode of human genome and they include the identification of new regulatory molecules, sequences of non-coding regions and the elucidation of gene-nutrient interactions . It is also expected the knowledge of pleiotropic biological actions of nutrient constituents and the understanding of the limited quantities required for cell response and for organism reaction.

PREREQUISITES  
-

COURSE CONTENTS  
Application of Nutrigenomics tools to analyze the role of oxidants and antioxidants in gene expression. Oxidative stress and human genetic variation. Oxidative stress, gene expression and life span, Effects of antioxidants on gene expression in endothelial cells. Fatty acids, gene expression and coronary heart disease. Anti-inflammatory activity of natural products extracts. Cell regulatory activity of Tocopherols and Tocotrienols. Anti-carcinogenic properties of Soy Isoflavones. Modulation of gene activity of dietary metals (Zinc, Iron, Copper, Selenium). Gene-nutrient interaction on adipocytes.

RECOMMENDED READING  
Nutrients and Gene expression Clinical Aspects. Carolyn D. Berdanier  
Nutrient-gene interactions in health and disease , Moustaid-Moussa , Naima, Berdanier , Carolyn D.

TEACHING METHODS  
Teaching includes lectures and tutorial lessons.

ASSESSMENT METHODS  
The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**WORLD NUTRITION**

COURSE CODE  
IA4200

TYPE OF COURSE  
Elective

LEVEL OF COURSE  
Undergraduate

SEMESTER  
8<sup>th</sup>

NAME OF LECTURER  
Antonia-Leda Matalas, Associate Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)  
The objective of the course is to provide stimulus for considering the current nutritional challenges in the international level, present the data on the prevalence of hunger and malnutrition, enable the students to appreciate the social, economic and environmental parameters involved and discuss the future perspectives of food adequacy and safety.

PREREQUISITES  
-

COURSE CONTENTS  
The course examines world trends in food availability and consumption, and regional food consumption patterns. Overviews the current nutritional challenges in the international level and the importance of action programmes for development and protection of the nutritional status of vulnerable populations. The social, economic and environmental determinants of famine and malnutrition are examined, and future projections on the food world status are discussed.

RECOMMENDED READING  
Action Against Hunger, The Geopolitics of Hunger 2000-2001, Boulder Co., Lynne Rienner, 2000.  
Ματάλα Α-Λ. και Χουλιάρης Α. (επιμ.) Διατροφή στον 21<sup>ο</sup> Αιώνα, Αθήνα, Εκδόσεις Παπαζήση, 2005.

TEACHING METHODS  
Class instruction; individual project

ASSESSMENT METHODS  
Written exams & students projects

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE

**FOOD BIOTECHNOLOGY**

COURSE CODE

IA3900

TYPE OF COURSE

Optional

LEVEL OF COURSE

Undergraduate

SEMESTER

8<sup>th</sup>

NAME OF LECTURERS

Vaios Karathanos, Professor

Nick Kalogeropoulos, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objective of the course is to understand (a) the contribution of biotechnology applications in the modern diet, (b) the operation principles of bioreactors, (c) the micro-organisms of industrial fermentations (bacteria, molds, yeasts) and the "useful" fermentations (alcoholic, lactic and propionic), (d) the technology of production of microbial protein, oils, polysaccharides etc, (e) biotechnology applications for waste treatment (anaerobic, aerobic, composting), (f) prebiotics, (z) the modern biotechnology (recombined DNA, DNA cloning, genetic engineering).

PREREQUISITES

-

COURSE CONTENTS

- Introductory definitions – the significance of Biotechnology – the microorganisms of industrial fermentations (bacteria, yeasts, molds)
- Bioreactors – Calculations in bioreactors systems
- Technology of production of microbial protein, oil, polysaccharides etc
- Prebiotics
- Modern biotechnology applications (recombined DNA, cloning, genetic engineering – genetically modified foods).
- Fermented foods and products: production, attributes and alimentary value.
- Alcoholic fermentation, wine, beer
- Lactic fermentation, propionic fermentation, dairy products
- Technology and applications of immobilized enzymes
- The biotechnology in the processing of foods, food components and food additives

RECOMMENDED READING

M Liakopoulou-Kyriakidou (2004), "Biotechnology with Emphasis in Biochemical Engineering", Zitis Editions, Thessaloniki (in Greek)

DA Kyriakides (2000), "Biotechnology" Zitis Editions, Thessaloniki (in Greek)

RL Rogers & GH Fleet (1993), "Biotechnology and the Food Industry", Gordon and Breach Science Publishers

TEACHING METHODS

Teaching includes lectures and educational visit to biotechnology laboratory and in a food industry

ASSESSMENT METHODS

Student's grade is assessed by a final written exam.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

COURSE TITLE  
**NUTRITION FOR CHAMPIONS**

COURSE CODE  
IA4000

TYPE OF COURSE  
Option Module

LEVEL OF COURSE  
Undergraduate

SEMESTER  
8<sup>th</sup>

NAME OF LECTURER  
Stavros Kavouras, Assistant Professor

OBJECTIVE OF THE COURSE  
To educate the students on the specific dietary requirements and the role of dietary ergogenics of high level athlete. Also the legal framework and procedures of anti-doping control is analysed.

PREREQUISITES  
-

COURSE CONTENTS  
The course's aim is the overview of subjects regarding athletes' nutritional requirements during training periods as well as competition periods. Subjects related to practical aspects of athletic nutrition, such as dietary evaluation, the role of body weight and the (composition) in performance and the use of dietary supplements is also examined. Analysis of role of the national council of anti-doping and its legal threshold.

RECOMMENDED READING  
R. Moughan, L Burke. Nutrition for champions, Edition: Blackwell 2006

TEACHING METHODS  
Teaching includes lectures and tutorial lessons.

ASSESSMENT METHODS  
The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

COURSE TITLE  
**NUTRITION AND DISEASE PREVENTION**

COURSE CODE  
IA4400

TYPE OF COURSE  
Option Module

LEVEL OF COURSE  
Undergraduate

SEMESTER  
8<sup>th</sup>

NAME OF LECTURER  
Evangelos A. Polychronopoulos, Assistant Professor

OBJECTIVE OF THE COURSE  
To educate the students on the prevention of chronic degenerative diseases, such as diabetes, cardiovascular disease, and cancer. To familiarize students with the symptoms and clinical signs of nutrition related diseases. Disease prevention refers to primordial, secondary (screening), and tertiary (palliative) care.

PREREQUISITES  
-

COURSE CONTENTS  
The role of Dietician Nutritionist in disease prevention and nutritional therapy at the health care setting (Hospital, Health Centre, Community).  
Prevention: primordial, primary, secondary (mass screening programmes), tertiary (Palliative Care) (Nutritional patient care).  
Carcinogenesis (initiation and promotion).  
Risk factors, Health determinants (nutrition, physical inactivity, tobacco, lifestyle)  
Holistic approach of health and disease .  
Nutrition and sustainable environment . The role of Dietician-Nutritionist  
Disease prevention in relation to new food technologies.  
Alleviation of disease burden through prevention procedures. Stress  
Dietary interventions for supplementary feeding (foods and nutrients) at the Clinical Setting

RECOMMENDED READING  
Public Health Nutrition. MJ Gibney. BM Margetts JM Kearney L Arab  
Preventive Medicine Journal

TEACHING METHODS  
Teaching includes lectures, tutorial lessons and exercises.

ASSESSMENT METHODS  
The course grade is based on a final written exam.

LANGUAGE OF INSTRUCTION  
Greek, English (for Erasmus students)

## ***Dissertation***

For students to graduate they have to complete their dissertation during the last two semesters.

COURSE CODE  
ΠΤ2000

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
7<sup>th</sup> & 8<sup>th</sup>

NAME OF LECTURER(S)  
Students' dissertations are supervised by the members of the academic staff.

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objective is to offer the students

- the skills to conduct scientific research
- the experience for data handling,
- manuscript preparation and
- presentation of their work.

PREREQUISITES

To begin their dissertation, students should have successfully attended all but four courses.

COURSE CONTENTS

Dissertations can be either literature reviews or part of research projects. In any case, after completion of their research, students must prepare a manuscript and defend their work in public.

LANGUAGE OF INSTRUCTION

Greek, English (for Erasmus students)

## ***Practical Placement***

COURSE CODE  
ΠΑ2000-1

TYPE OF COURSE  
Compulsory

LEVEL OF COURSE  
Undergraduate

SEMESTER  
7<sup>th</sup> & 8<sup>th</sup>

NAMES OF COORDINATORS

Clinical setting:

Mary Yannakoulia, Assistant Professor, and Meropi Kontogianni, Lecturer

Community:

Evangelos A. Polychronopoulos, Assistant Professor, and Yannis Manios, Assistant Professor

Food service:

Vaios Karathanos, Professor, and George Boskou, Assistant Professor

OBJECTIVE OF THE COURSE (EXPECTED LEARNING OUTCOMES AND COMPETENCES TO BE ACQUIRED)

The objective of practical placement is to provide students with the skills and knowledge to work as dieticians and nutrition scientists, as well as to expose them to chances for applying their theoretical knowledge in the actual working environment, under supervision

PREREQUISITES

To participate in the practical placement, students should have successfully attended a number of nutrition-related modules of the six first semesters.

COURSE CONTENTS

Practice placement is conducted in clinical settings, with the official collaboration of the Nutrition Departments of many major public hospitals and health care units. Specific aims of this clinical PP are to train students on the nutrition care process, students to practice their communication skills, to explore their abilities to interact on a daily basis with other members of the health care team, and to become able to cope with difficult situations and critical cases. In the near future Practice placement will be expanded to community units and food service and industry settings.

RECOMMENDED READING

-

TEACHING METHODS

Presence and active involvement of students in the practical placement settings..

ASSESSMENT METHODS

The final grade comes from the students' evaluation in practical placement settings as well as from their overall performance.

LANGUAGE OF INSTRUCTION

Greek

## THE POSTGRADUATE PROGRAMME

The Postgraduate Programme in Applied Nutrition and Dietetics offers three directions :

- Clinical Nutrition,
- Nutrition and Exercise,
- Nutrition and Public Health.

The aims of the Postgraduate Programme are to

- train specialized scientists capable of designing and managing nutritional interventions at an individual and/or group level, thus addressing the needs of executive personnel of institutions operating in the fields of Clinical Nutrition, Nutrition and Exercise, Nutrition and Public Health and Food Science, both in the public and the private sector
- promote research and dissemination of new knowledge in the area of Nutritional Sciences.
- establish a framework for cooperation with other academic institutions in Greece and abroad
- facilitate student and academic personnel mobility
- attract students and academic personnel from other higher education institutions in Greece and abroad. For this purpose, whenever required, courses or specific teaching units will also be delivered in English



The Postgraduate Programme awards:

- Master's Degree (MSc), on a Full Time and Part Time basis, in:
  - Clinical Nutrition,
  - Nutrition and Exercise
  - Nutrition and Public Health

The duration of the Full-Time Programme is one and a half (1.5) year minimum and two and a half (2.5) years maximum, whereas for the Part-Time programme is two and a half (2.5) years minimum and three and a half (3.5) years maximum.

- Doctoral Degrees in subject areas relevant to the discipline of Applied Nutrition and Dietetics.

The Postgraduate Program for a **PhD degree** is taken over three (3) calendar years minimum.

## EXTRA CURRICULAR ACTIVITIES

### **Student Union**

The Students' Union of Harokopio University consists of all the students. The aim of the Student Union is to act as a representative of the students to the University Administration and to insure that their interests and rights are protected. The Student Union also takes initiatives in organizing cultural, artistic and sports events. Among the aims of these activities is the incorporation of the new students, including the ERASMUS students, in the academic life. The Student Union office is open to its members and to anyone interested in sharing their goals, and is situated on the University's premises.

### **Students' activities**

Students are also involved in several activities and have created societies /clubs , such as :

- Dancing
- Theater
- Photography
- Sports



**2011**

**Harokopio University**

**DEPARTMENT OF NUTRITION and DIETETICS**

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