

2018

SCHOOL of HEALTH SCIENCE and EDUCATION
DEPARTMENT OF NUTRITION and DIETETICS

STUDY GUIDE



HAROKOPIO UNIVERSITY
SCHOOL OF HEALTH SCIENCE AND EDUCATION
DEPARTMENT OF NUTRITION & DIETETICS

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Year 2018

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PREFACE

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

The Department of Nutrition & Dietetics constitutes a unique department of higher education in Greece which deals with the subject of Human Nutrition, covering all topics of the term *Diet*, from nutrients to lifestyle. The duration of the studies is four years (8 semesters).

The Department was established in 1992, as “Department of Dietetics”, while in 1994 students were admitted for the first time. In 1999 the name changed to “Department of Nutrition - Dietetics”, and in 2013 the Department joined the School of Health Science and Education. In 2000-2001 the postgraduate programme in Applied Nutrition and Dietetics was established, while part-time postgraduate studies are also available since 2010.



The mission of the undergraduate programme is to educate professionals able to apply the science of nutrition and dietetics, with an aim to improve dietary habits and nutritional status of individuals and population groups of any age, either healthy or diseased, at both prevention and treatment levels.

Education provided in the Department encompasses a wide range of fields in nutrition and dietetics, basic nutritional sciences and clinical, socio-cultural and community aspects of nutrition included. Teaching, always consistent with current scientific developments, combines theory with practical training. For the Bachelor’s degree (BSc) to be awarded, accomplishment of all available courses, including practical placement attendance and thesis implementation, are required. 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.

Professional activity of the graduates may include occupation in a variety settings, such as healthcare services (e.g. hospitals, clinics, health care centers), community services (e.g. kindergartens, nursing homes, rehabilitation centers,

camping), sports units (e.g. gyms, sports clubs, sports federations), food services (e.g. food industries, catering units), educational institutions, research institutes, and/or as free lance dietitians/nutritionists.

GENERAL INFORMATION

Harokopio University, named after the national benefactor Panagis Harokopos, is a public university dedicated to promoting research and learning in a small, well focused set of intellectual areas. The university, situated in the centre of Athens, was founded in 1990, according to high international standards.

The University comprises three Schools and four Departments: the **School of Health Science and Education** with the Department of Nutrition and Dietetics, the **School of Environment, Geography and Applied Economics**, with the Department of Home Economics and Ecology and the Department of Geography, and the **School of Digital Technology**, with the Department of Informatics and Telematics. All departments offer four year, full time studies, leading to B.Sc. degrees. High quality education offered by



Harokopio University provides a balanced combination of scientific knowledge and experimental practice, rendering our graduates competent within the demanding working and societal contemporary environment.

Harokopio University is located at 70 El. Venizelou Avenue in Kallithea, only 4 km south of the center of Athens. Kallithea is a vivid municipality within the wider area of Athens in the Attica Prefecture. The University is situated close to many important cultural and civil life sites, such as the Unesco World Heritage Centre of the Acropolis, the Panathenaic Stadium, Thissio, Keramikos. Easy access to the University is provided by variable means of public transportation. The Athens Metro (line 1) brings visitors at Tavros station, while a number of bus and trolleybus lines are also available.

Research Activities

The University supports both basic and applied research, thus promoting science and providing scientific, research and technological services. The University encourages the academic staff to take over scientific, research and technological projects granted or supported by international bodies and organizations. The research activities at the University are characterised by transparency and their results are announced and are accessible to members of

the scientific community, who have the right to use them with respect to the Greek legislation, the European Community regulations and the International Law regarding intellectual rights protection, in all cases and to the fullest extent.

Harokopio University possesses both adequate infrastructure and scientific expertise to promote and enhance research activities. Harokopio University is ranked high among the Universities of the country, based on the number of publications of faculty members and their international impact, according to the findings of the most recent relevant studies of the National Documentation Center (Greek Scientific Publications 1993-2008: Bibliometrics analysis of Greek publications in international scientific journals "and" Greek Scientific Publications 1996-2010: Bibliometric analysis of Greek publications in international scientific journals ").

The Network Operations Center

The Network Operations Center (NOC) of Harokopio University was founded in 1997, aiming at the development, management and extension of the communication network of the University, with a priority to offer high quality services for supporting both teaching and research activities. Students, upon their registration, obtain an account to access the network. Principal NOC services include planning, extension and network upgrading (data and voice), management, support and maintenance of infrastructure, management of user accounts, development of new advanced online services, help-desk support for users, participation in research and development projects.

The Library and Information Center

The Library and Information Center (LIC) (www.library.hua.gr) of Harokopio University was founded in 1991 along with the establishment of the University. Since 1995, the LIC of Harokopio University organizes its scientific material in accordance with the international rules and standards of Library and Information Science.

The aim of the LIC is to support the educational and research activities of all members of the University community, as well as those of research collaborators and scholars interested in the subject areas of the Departments of the University. The mission of the LIC is the collection, processing and dissemination of information related to the subject areas of the Departments of

the University, as well as the users' training and skill development in innovative technologies applications and in proper selection of information sources.

Indicatively, the services provided by LIC, member of the Hellenic Academic Libraries Association (Heal-Link), include: borrowing procedure, order of journal articles, online access to journals, access to databases, subject portals, and digital library service.



STUDENTS AFFAIRS

Registration

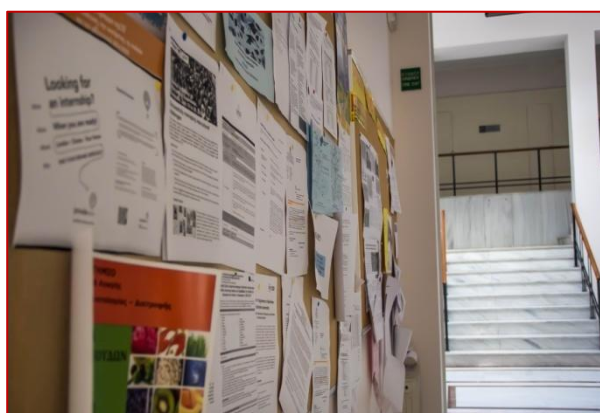
Registration at the University Departments conforms to Greek legislation. Student ID may be obtained through participation in the National Examinations, conducted by the Ministry of Education, Research and Religious Affairs, as well as through special categories, including Greek students from abroad, distinguished athletes, graduates of other Greek High Educational Institutes, all fully defined by the Ministry of Education, Research and Religious Affairs. Certified knowledge of the Greek language is required for foreign students.

Health Care

All students get free health insurance, covering medical and hospital expenses.

Accommodation and Living Expenses

The institution does not offer any residential facilities. A housing allowance for private rooms and apartments is provided to the students meeting the conditions provided by the Law. Students that fulfill certain financial criteria may have free meals at the restaurant of the University in accordance to Greek legislation. Students have reduced ticket price in public transportation.



Books

Books are distributed to registered students free of charge by the Ministry of Education, Research and Religious Affairs, supported by EUDOXOS e-platform.

Counselling Center

The Student Counselling Center of Harokopio University was established by a Senate act in September of 2001. The Center comprises a team of

professionally trained consultants and therapists specializing in counselling and psychological support of students. The services of Student Counselling Center are available to all undergraduate and postgraduate students of the University and aim at:

- Providing counselling support to students who face personal, adjustment or family/relationship difficulties
 - Providing psychosocial support to students
 - Providing support to students with special needs
 - Providing counselling support to foreign students from different cultures
 - Providing support to students with learning difficulties
 - Developing learning, social and communicative skills of students
- Counselling may be provided at personal, group or web-based level.

Student Mobility

Student mobility, encouraged by all Departments, is supported by the Erasmus Programme or other mobility programmes, through a network of exchange collaborations mainly within Europe.

Academic Calendar

The academic year starts on the 1st September of each year and ends on the 31st August of the following year. Each academic year is divided in two semesters, the winter and the spring semester.

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

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

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 1st July to 31st August
- from the 23rd December to 6th January (Epiphany Day)
- on Ash Monday
- from Good Monday to the first Sunday after Easter

- courses do not take place during students' elections

Closure days for the Services of the University are the following dates:

- the National Holiday of the 28th October
- 17th November
- 30th January
- the National Holiday of the 25th March
- the Holy Spirit Monday

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 ensure 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 community of the University, on its own initiative, work and eagerness, extends and complements the educational nature of the academic community by creating groups that match their interests and concerns, including groups of various kinds of dance, sports groups, cinema club, theater group.

Finally, it is quite important the awareness and response of the Student Union to the events that take place at the society level and the organization of several charitable activities.

THE DEPARTMENT OF NUTRITION and DIETETICS

Description

The Department of Nutrition and Dietetics of the School of Health Sciences and Education of the Harokopio University was founded in 1992 under the name "Department of Dietetics". The first students entered in 1994, and in 1999 it was renamed "Department of Nutrition and Dietetics". Since the Academic Year 2000-01, the Department also provides a Postgraduate Program in five directions.

Undergraduate Studies

The mission of the Department is to train scientists who will apply the Science of Dietetics and Nutrition aiming to improve the dietary habits and nutritional status of individual persons as well as population groups such as healthy or patients, infants, children and adolescents, athletes as well as persons with disabilities. The education provided by the Department covers the broadest range of Nutrition subjects and combines theoretical teaching with laboratory and practical training while following the current scientific knowledge.

The Undergraduate program is one of the most attractive among the programs of the universities in the country. The Department entry requirements for the last decade reached an average of 18,200 units, while the Department of Nutrition and Dietetics is one of the first choices for entry into Higher Education by a high percentage of the student population (over 30%). The graduation rate of the students is also high (above the average rate of Greek Universities).

The attendance lasts four years. The prerequisite for obtaining the degree is the successful examination of all courses of the Undergraduate Study Program, including successful attendance of the Practical Placement and the elaboration of the Dissertation. A detailed description of the courses in the Program follows in the next section.



Educational results and skills

Upon completion of the Undergraduate Studies Program, graduates have acquired knowledge and developed skills and competences, as described below.

I. Knowledge

- A consistent and complete body of knowledge, including elements of biological, medical, food and social sciences.
- A good perception of the evolutionary dynamic of the scientific field of knowledge regarding Nutrition and Dietetics, in basic research, as well as in epidemiology and in clinical implementations.
- Analytical and advanced knowledge of the scientific field of Nutrition and Dietetics in individual and community level, in the population, as well as in specific population groups.
- The ability to identify the connection and the sequence between prevention, health promotion and therapy.
- Knowledge regarding the effects of food in physiology and metabolism including pathological conditions.
- Knowledge of the content and the particularities of the nutrition care process. Also, knowledge about patients' nutritional support, implementation of enteral and parenteral nutrition, training and consultation of a patient or of a population group regarding dietary behavior amendment.
- A body of specialized knowledge regarding the different species and the various capacities of food items and nutrients. They have the ability to identify the interactions between nutrients, food items and medicines, as well as the connection between Food Science and Nutrition. Also, they have a body of knowledge regarding legislation, food safety, food quality and quality assurance of feeding units.
- Knowledge of research methodology and principles of research protocol design in the subject of nutrition and health.

II. Skills

- Analyze and adjust their knowledge in order to provide evidence based, scientific training and guidance, concerning the effects of food in health and wellbeing in individual level, or in population groups.
- Implement the nutrition care process in feeding population groups or individuals and in specific:

- Assess nutritional status, implementing the proper assessment tools.
- Diagnose the nutritional problem and intervene with evidence based methods.
- Interpret and implement scientific findings and successful interventions in public health programs.
- Observe using proper indices, assess the effectiveness of interventions and rearrange their goals accordingly.
- Develop and implement nutritional intervention adjusted in the cultural and linguistic needs of individuals or population groups.
- Implement new technologies in nutritional interventions and generally in the nutrition care process.

III. Competencies

- Continue autonomously to develop their knowledge and skills at a higher level.
- Implement with professionalism their specialized knowledge and skills regarding nutrition care process and they effectively encounter with interdisciplinary way the issues arisen.
- Solve problems regarding improvement of the dietary intervention effectiveness.
- Have the competency to make decisions based on clinical or/and literature data.
- Contribute to the development of knowledge and practices in the professional field.
- Autonomously take responsibility for training/ education of groups of people regarding nutrition and have the ability to assess its efficiency.
- Work safely and efficiently without prejudice and with confidentiality, acknowledging the legal and ethical limits of their profession.
- Cooperate in interdisciplinary groups with other scientists, contributing with their knowledge in any nutritional issue.
- Administrate and perform economic management in feeding units.
- Design programs and policies aiming to improve or preserve optimal health in individual or population level.
- Develop and implement strategies for the promotion of safe and healthy dietary choices for individuals or population groups.
- Offer technical help/advise in stakeholders and people responsible for shaping health policies.

Postgraduate Studies

Two Postgraduate Studies Programs (Master of Science, M.Sc.) are running, which offer the possibility of full-time or part-time studies, entitled:

"Applied Nutrition and Dietetics"

Disciplines

- Clinical Nutrition
- Nutrition and Exercise
- Molecular Nutrition

"Nutrition and Health"

Disciplines

- Nutrition and Public Health
- Nutrition, Foods and Consumer

The scope of the Postgraduate Programs of the Department is the development of research and the production of new knowledge in the broader field of Nutrition Science, the training of specialized scientists to meet the staffing needs of public and private organizations in the fields of Clinical Nutrition, Nutrition and Exercise, Nutrition and Public Health, Food Sciences and Molecular Nutrition. The Programs also aim to:



- establish a framework for research and teaching cooperation with Universities and other Institutions, both in Greece and abroad,
- enhance the mobility of students and academic staff to research centers or Universities in Greece and abroad, to conduct research and to participate in conferences,
- emerge excellence,
- develop high-level student research,
- promote students' research work in international and Greek conferences where students are invited to present their research papers.

The duration for the award of a Master's degree is set at one and a half (1,5) year the minimum, and two and a half (2,5) years the maximum, for the full-time program, while for part-time study there are two and a half (2,5) and three and a half (3.5) years, respectively.

Doctor of Philosophy Degree (PhD)

The Doctor of Philosophy Degree (PhD) is awarded on the basis of a Doctoral Dissertation on a subject area relevant to the discipline of Nutrition and Dietetics. The duration of the Ph.D. dissertation, based on the current legislation, is at least three (3) years.

Research

The research in the Department is innovative and of high quality with great recognition in Greece and abroad, as evidenced by the published works of the members of the Department in international scientific journals and the numerous citations of their work. To date, more than 150 funded research projects have been implemented in the Department under the supervision of members of its academic staff.

The Department of Nutrition and Dietetics has bilateral collaborations under the Erasmus program, including the following European Universities: Ghent University (Belgium), Hamburg University of Applied Sciences (Germany), Universite de Lorraine (France), Università degli Studi di University of Salamanca (Spain), Universidad de Zaragoza (Spain), Universidad Rey Juan Carlos (Spain), Universite Paris Descartes (France), University of Padua (Italy), Wageningen University (Norway), Polytechnic Institute of Braganca (Portugal), Nuh Naci Yazgan University (Turkey).

Through the research activity of the academic staff, collaborations have been developed with more than 160 universities and research centers internationally, i.e., USA: Yale University Medical School, Harvard Medical School, University of Maine, Columbia University, Japan: Tottori University, Australia: Deakin University, UK: University College London, University of Birmingham, University of Reading, University of Oxford, University of Leeds, University of Liverpool, University of Aberdeen, Ireland: University College Dublin, Norway: University of Oslo, Sweden: University of Gothenburg, Lund University, Finland: University of Helsinki, University of Eastern Finland, Germany Cologne, University of Hamburg, Spain: University of Gran Canaria, University of Granada, University of Valencia, University of Zaragoza, Navarra University, Netherlands: University of Maastricht, Wageningen University.

Departmental Staff

The staff of the Department is distinguished in research and academic staff, teaching assistant staff, laboratory staff and administrative staff.

Research and Academic Staff

Antonopoulou Smaragdi

Professor

Dedoussis Georgios	Biochemistry Professor
Kalogeropoulos Nick	Cell and Molecular Biology Professor
Karathanos Vaios	Food and Environmental Chemistry Professor
Manios Yannis	Food Chemistry and Food Engineering Professor
Matalas Antonia-Leda	Nutrition Assessment & Education Professor
Panagiotakos Demosthenes B.	Nutrition Anthropology Professor
Polychronopoulos Evangelos A.	Biostatistics – Epidemiology of Nutrition Professor
Sidossis Labros	Nutrition – Dietetics and Preventive Medicine Professor
Tsigos Constantine	Nutrition – Dietetics Professor
Chiou Antonia	Nutrition and Metabolism Associate Professor
Kyriakou Adamantini	Chemical Analysis and Synthesis Associate Professor
Yannakoulia Mary	Bacteriology Associate Professor
Yiannakouris Nikos	Nutrition and Behavior Associate Professor
Boskou George	Functional Biology-Hormonal regulation of Metabolism Assistant Professor
Fragopoulou Elizabeth	Food Service Organization and Management Assistant Professor
Kaliora Andriana	Biological Chemistry Assistant Professor
Kavouras Stavros	Human Nutrition and Foods Assistant Professor
Kontogianni Meropi	Exercise Physiology and Sports Nutrition Assistant Professor
Nomikos George	Clinical Nutrition Assistant Professor
Papanikolaou George	Biochemistry Assistant Professor
Skouroliakou Maria	Human Molecular Genetics Assistant Professor
	Enteral and Parenteral Nutrition

Tenta Roxane

Assistant Professor
Human Physiology

Professors Emeritus

Andrikopoulos Nikolaos, *Professor Emeritus*

Ballis Konstantinos ^{(2000)†}, *Professor*

Skopouli Fotini, *Professor Emeritus*

StavrinosVasileios, *Professor Emeritus*

Teaching Assistant Staff

Bathrellou Eirini, PhD

Karatzis Kalliopi-Zafirenia, PhD

Kotsou Maria, PhD

Skenderi Katerina, PhD

Yanni Amalia, PhD

Laboratory Staff

Christea Margarita

Liane Panagiota

Mitsou Eudokia

Sitara Marietta

Foreign Language Instructors

Aeginitou Violetta, PhD (English language)

Manailoglou Eleftheria (German language)

Zenakou Eleni, PhD (German language)

Zissimopoulou Athanassia, PhD (French language)

Vlahoyanni Nectaria (English language)

Secretary

Maraki Maria

☎ +30 210.9549114

Secretariat

Papadopoulou Vassiliki

☎ +30 210.9549111

Post-graduate Studies Secretariat

Sofou Eleni

☎ +30 210.9549158

Website

www.ddns.hua.gr

Laboratories of the Department

The Department is engaged in basic and applied research, contributing to the promotion of scientific knowledge and public health as well as the economic and social development of the country. The Department has three established Laboratories with well-equipped facilities, which apply a variety of methods to conduct lab exercises and research protocols, in vivo and in vitro.

The equipment available includes a range of new technologies and instruments for analyzing samples of biological material and food, but also for assessing nutritional status, anthropometry and body composition, physical condition and metabolism. For example, spectrophotometers, ELISA readers, electrophoresis devices, PFGE, centrifuges and ultracentrifuges, PCR devices, real-time PCR, lyophilizers, freeze dryers/lyophilizers, laminar flow hoods, incubators, shaking incubators, anaerobic chamber, CO₂ incubators, autoclaves, bioreactors, gas chromatography (GC) and gas chromatography-mass spectrometer (GC-MS), biochemical analyzers, analytical scales, dual energy X-ray absorptiometer (DXA), indirect calorimeter, portable ergometer, isokinetic dynamometer, treadmill, scales, skin fold calipers, bioelectric impedance analysis devices and food models.

Recently, the Department obtained important equipment through the Regional Operational Program of Attiki that allows the redevelopment of the three Laboratories and is expected to help significantly in the education of students regarding recent methods of recording and analysis both through laboratory exercises and through the upgrading of their thesis.



This equipment creates the prerequisites for claiming competing programs from European and private resources. Among the recently acquired instruments are: mass spectrometer coupled with high performance liquid chromatography, differential scanning calorimetry (DSC), inductive coupling spectroscopy (ICP-OES), liquid chromatography with UV detectors and Fourier Transform - infrared spectroscopy (FT-IR), trichromatic colorimeter, rheometer.

In addition, this equipment allowed the establishment of a cell culture laboratory. The cell culture laboratory was equipped with two class II laminar

flow hoods, a refrigerated centrifuge, a flow cytometer for Fluorescence Assisted Cell Sorting (FACS) and an inverted microscope for tissue culture examination. Furthermore, the Department obtained a new model of Gel Doc Analyzer, an automated fluid dispensing system and an automated system for nucleic acid isolation. The Laboratory of Nutrition and Dietetics was equipped with an ergospirometry system, a multi frequency segmental body composition analyzer and a visceral fat analyzer.

Laboratory of Biology, Biochemistry, Physiology and Microbiology

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.

Academic Staff

Dedoussis Georgios, *Professor (Director)*

Antonopoulou Smaragdi, *Professor*

Kyriakou Adamantini, *Associate Professor*

Yiannakouris Nikos, *Associate Professor*

Fragopoulou Elizabeth, *Assistant Professor*

Nomikos Tzortzis, *Assistant Professor*

Skouroliakou Maria, *Assistant Professor*

Tenta Roxane, *Assistant Professor*

Papanikolaou George, *Assistant Professor*

Teaching Assistant Staff

Kotsou Maria, PhD

Laboratory Staff

Liane Panagiota

Mitsou Eudokia

Laboratory Secretariat

Mitsou Eudokia

Telephone: +30 210 9549 301

Laboratory of Nutrition and Dietetics

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

Academic Staff

Matalas Antonia-Leda, *Professor (Director)*

Manios Yannis, *Professor*

Polychronopoulos Evangelos, *Professor*

Sidossis Labros, *Professor*

Tsigos Constantine *Professor*

Yannakoulia Mary, *Associate Professor*

Kavouras Stavros, *Assistant Professor*

Kontogianni Meropi, *Assistant Professor*

Teaching Assistant Staff

Bathrellou Eirini, PhD

Karatzis Kalliopi-Zafirenia, PhD

Skenderi Katerina, PhD

Administrative Staff

Tsiafitsa Antigoni

Laboratory Secretariat

Bathrellou Eirini, PhD

Telephone: +30 210 9549 166



Laboratory of Chemistry, Biochemistry and Physical Chemistry of Foods

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.

Academic Staff

Karathanos Vaios, *Professor (Director)*

Kalogeropoulos Nick, *Professor*

Chiou Antonia, *Associate Professor*

Boskou George, *Assistant Professor*

Kaliora Andriana, *Assistant Professor*

Teaching Assistant Staff

Yanni Amalia, PhD

Laboratory Staff

Margarita Christea

Laboratory Secretariat

Telephone: +30 210 9549 306

The Computer Center

A fully equipped Computer Center is available to the students of the Department, supporting learning needs and relevant digital activities, as well as remote access (VPN).

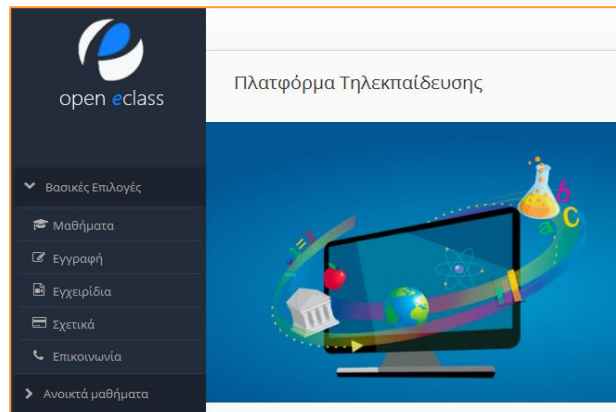
The e-Class

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.

Student 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
1st Semester				
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
2nd Semester				
ΓΕ1701	Human 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
3rd Semester				
ΓΕ1702	Human 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
4th Semester				
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
5th Semester				
ΙΑ0801	Clinical Nutrition I	3	3	6
ΙΑ3301	Enteral and Parenteral Nutrition	2	-	3
ΓΕ2900	Food Service Hygiene	1	1	3

IA2000	Public Health Nutrition	2	-	3
IA0504	Nutrition and Micronutrient Metabolism	3	3	6
IA1900	Nutrition and Exercise	2	2	5
IA1102	Pathophysiology II	3	-	4
			Total	30
6th Semester				
IA0802	Clinical Nutrition II	3	3	6
IA3100	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	Nutritional Education	1	2	4
ΓΕ3000	Research Methods in Nutrition	2	1	5
			Total	30
7th Semester				
OK0100	Health Economics	2	-	2
IA3800	Disorders of Energy Regulations and Metabolism (O)	2	-	2
IA3700	Clinical Pediatric Dietetics (O)	2	-	2
ΓΕ3100	Food Biochemistry (O)	2	-	2
ΓΕ3200	Food Legislation (O)	2	-	2
ΓΕ3300	Data Analysis (O)	2	2	2
Students choose at least the number of elective courses needed to obtain the ECTS credits of the semester			Total	6
8th Semester				
ΓΕ3400	Human Resource Management	2	-	2
OK0900	Marketing (O)	2	-	2
IA4100	Gene Nutrient Interaction (O)	2	-	2
IA4200	World Nutrition (O)	2	-	2
IA3900	Food Biotechnology (O)	2	-	2
IA4000	Nutrition for Elite Athletes (O)	2	-	2
IA4300	Nutrition and Disease Prevention (O)	2	-	2
IA4400	Metabolic Disease (O)	2	-	2
Students choose at least the number of elective courses needed to obtain the ECTS credits of the semester			Total	6
7th & 8th Semesters				
ΠΑ2000-1	Practical Placement I & II			30
ΠΤ2000	Dissertation			18
			Total	48
Total ECTS credits for the Undergraduate Studies Programme				240

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

Exercises: attendance is compulsory

ECTS: European Credit Transfer System

O: Optional

BIOLOGY OF THE CELL

COURSE CODE	ΓΕ0500	SEMESTER	1
TEACHING FACULTY	Georgios Dedoussis, Professor George Papanikolaou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	5	ECTS	6
COURSE TYPE	Compulsory	Basic knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/207/			

LEARNING OUTCOMES

Learning Outcomes

The learning outcomes of this course is to provide the knowledge to the students to understand the structure of eukaryotic cells, to know the functions of each sub-cellular component, to experiment with the basic techniques of microscopy, to observe and interpret the findings. Moreover, the students learn that we all depend on the process of photosynthesis, by means of which the energy that builds our body is captured from sunlight. One of the main outcome of this process has been the production of an atmosphere rich in oxygen, setting the stage for the evolution of life including human beings. Studying the cell cycle they understand how they divide and pass the genetic material to their descendants. They learn that all living organisms grow and reproduce and that the secret of life is a code of a sequence of bases written on our DNA.

General Abilities

- Data and information searching, analysis and synthesis, with the support of proper technologies
- Autonomous work
- Team work
- Work in a multidisciplinary environment
- Respect diversity and multiculturalism
- Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

The chemistry of life. Macromolecules: structure and function. From molecules to the first cell. From prokaryotes to eukaryotes. Cell structure and function. A comparison of bacteria and eukaryotic cells. The interior of eukaryotic cells. The nucleus, the Golgi complex. Looking at the structure of cells in the microscope. Isolating cells and growing them in culture. Fractionation of cells and analysis of their molecules. Tracing and assaying molecules inside cells. Cellular organelles: The mitochondrion, chloroplast, lysosome, peroxisome. Membrane structure and function. Membrane transport of small molecules and the ionic basis of membrane excitability. The cytoskeleton. The nature of the cytoskeleton. Intermediate filaments. Cell junctions, cell adhesion and the extracellular matrix. Cellular energetics. Cellular respiration. Photosynthesis. Cell to cell signaling: hormones and receptors. The cell cycle: Mitosis. Sexual Reproduction and Meiosis. Mendel and the patterns of inheritance. The chromosomal and the molecular basis of inheritance. From Gene to protein: Transcription and transduction.

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

- Face to face
- Lectures in class

- Laboratory exercises
- Written exercises

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students
- Use of bioinformatics software

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	26
Laboratory exercises	39
Written Laboratory exercises	23
Educational visits/ preparation of essays-presentations	23
Bibliography search and analysis	29
Total workload hours	140

STUDENT ASSESSEMENT

Written exams in theory (70% weight) with short answers and multiple choice questions and laboratory (30% weight) with written exams and laboratory exercises.

RECOMMENDED READING

- Biology – Vol I, Edition 1st, Campell N., Reece J. ITE – University Editions of Crete, Hrakleio, 2010 - ISBN: 978-960-524-306-7.
- The Cell: A Molecular Approach, Geoffrey M. Cooper & Robert E. Hausman, Academic Editions I. Basdra & Co, 2013 - ISBN: 978-960-99895-8-9.

GENERAL CHEMISTRY

GENERAL

COURSE CODE	ΓΕ1200	SEMESTER	1
TEACHING FACULTY	Antonia Chiou, Associate Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and Laboratory Practice		
WEEKLY TEACHING HOURS	5	ECTS	6
COURSE TYPE	Compulsory	Basic knowledge, Skills development	
PREREQUISITES	Pass grade in the Laboratory practice is prerequisite for the course theory written exam		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET153/			

LEARNING OUTCOMES

Learning Outcomes
<p>The objective of the course is the understanding of the structure of matter and its disciplines. On this basis 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, to improve students' laboratory skills, and to familiarize students with the basic laboratory practices applied in chemistry and food chemistry.</p> <p>On successful completion of the module the student will be able to:</p> <ul style="list-style-type: none"> ● understand the fundamental principles of matter ● describe, interpret and evaluate molecular structures and molecular interactions ● describe and interpret chemical reactions in inorganic matter ● calculate and evaluate parameters related to chemical reactions and physical phenomena ● know and use the fundamental laboratory techniques in chemistry.
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Autonomous work ● Team work ● Work in a multidisciplinary environment ● Practice critical judgment

COURSE CONTENT

<p>Course Theory: Energy, matter and life. Atomic Theory and atomic structure: quantum theory of the atom; quantum numbers and atomic orbitals. Periodic table and periodicity of the elements. Chemical bonds: Ionic and covalent bonds. Molecular geometry and chemical bonding theory: The Valence-Shell Electron-Pair Repulsion (VSEPR) Model; Valence Bond Theory; Molecular Orbital Theory. Intermolecular Forces (Van der Waals forces, hydrogen bond). Chemical reactions. Chemical equilibrium. States of the matter. Solutions: Types of solutions, solubility, and the solution process. Colligative properties of solutions. Colloid formation, properties, and applications. Complex-ions: formation, properties, and applications. Acids and bases: acid-base concepts, acid and base strengths, self-ionization of water and pH, acid-base equilibria, buffer solutions, titration. Chemical Thermodynamics and equilibrium: spontaneous processes and entropy, Thermodynamic laws, enthalpy and free-energy, calorimetry. Reaction rates, activation energy, the rate law, catalysis and catalysts.</p> <p>Course Laboratory Practice: Fundamental laboratory techniques in inorganic chemistry. Determination of physical constants and quantities. Solution formation, preparation of solutions, and solubility of salts. Chemical reactions. Chemical equilibrium and the Le Châtelier's principle. Calorimetric determinations</p>
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in solutions. pH measurement. Chemical kinetics. Acid-base titrations. Qualitative estimation of osmotic properties.

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

Face to face

- Lectures in class
- Practice in the laboratory

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	26
Laboratory practice	39
Self-study for the laboratory exercises	18
Assignments for the class theory and practice	21
Autonomous study	46
Total workload hours	150

STUDENT ASSESSEMENT

I. Written examination for the class theory (50%) including:

- Essay-type questions

II. Examination for the class laboratory practice (50%):

- Laboratory practice grade is based both on a written exam (essay-type questions) and a laboratory practical.

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.

RECOMMENDED READING

- General Chemistry, Volumes I & II, N.K. Andrikopoulos, Bistikeas Eds, 2006
- Chemistry for Medical Scientists, Kiriakides Eds, 2011

INTRODUCTION TO NUTRITION

GENERAL

COURSE CODE	IA0200	SEMESTER	1
TEACHING FACULTY	Antonia Matalas, Professor Mary Yannakoulia, Associate Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and practical sessions		
WEEKLY TEACHING HOURS	4	ECTS	5
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET142/			

LEARNING OUTCOMES

Learning Outcomes
<p>Upon completion of the course, the student is expected to:</p> <ul style="list-style-type: none"> ● be familiar with the concepts and the basic terminology of the science of nutrition ● understand the concept of nutritional requirements and how these are met through food intake ● identify the biological importance and the basic metabolic pathways of macronutrients ● know the biological roles of micronutrients ● appreciates the relationship between dietary intake and nutritional status ● be able to use methods for evaluating the quality of proteins ● understands the approaches behind the formulation dietary intake recommendations ● know how to estimate energy expenditure ● be familiar with the food composition tables ● be able to apply the techniques of regimen formulation
General Abilities
<ul style="list-style-type: none"> ● Autonomous work ● Processing of quantifiable data

COURSE CONTENT

<p>Nutritional requirements and how these are met by the diet. The basis for formulating dietary guidelines and recommendations on nutrient intake. Energy balance and estimation of energy expenditure. Dietary sources, biological functions, elements of metabolism and consequences of nutritional deficiencies and overload of carbohydrates, dietary fibers, lipids, protein, vitamins, and minerals. The practical sessions of the course cover the topics of energy expenditure assessment, protein quality evaluation, nitrogen balance, regimen planning, use of food composition tables and techniques for dietary analysis.</p>

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS		
<p>Face to face</p> <ul style="list-style-type: none"> ● Lectures in class ● Practical exercises 		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES		
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 		
TEACHING STRUCTURE		
<table border="1" style="width: 100%;"> <tr> <td style="width: 60%;">Activity</td> <td style="width: 40%;">Workload (hours per semester)</td> </tr> </table>	Activity	Workload (hours per semester)
Activity	Workload (hours per semester)	

Lectures	26
Practical sessions on applications of methodologies	26
Individual reports	30
Self- study	43
Total workload hours	125

STUDENT ASSESSEMENT

I. Final written examination (50%) which includes:

- Multiple choice questions
- Problem processing
- Short-answer questions

II. Midterm examination (30%)

III. Individual reports within the practical sessions (20%)

Completion of the courses' practical sessions is a prerequisite for exam participation

RECOMMENDED READINGΣΥΝΙΣΤΩΜΕΝΗ ΒΙΒΛΙΟΓΡΑΦΙΑ

- Gibney MJ, Langham-New S, Cassidy A. and Vorster HH. (2009) *Εισαγωγή στη Διατροφή του Ανθρώπου* (Επιμ. μτφρ. Α-Λ Ματάλα και Μ. Γιαννακούλια). Αθήνα, Εκδ. Παρισιάνου, 2015.
- Sizer F. and Whitney E. *Nutrition Concepts and Controversies*. Belmont: West/Wadsworth, 2013.
- Wardlaw GM, Hampl JS, Disilvestro RA. *Perspectives in Nutrition*. 6thed. McGraw-Hill Companies, 2004.

INFORMATICS

GENERAL

COURSE CODE	IA0801	SEMESTER	1
TEACHING FACULTY	Georgios Dimitrakopoulos, Assistant Professor of the Department of Informatics and Telematics		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and practical sessions		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	General knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET125/			

LEARNING OUTCOMES

Learning Outcomes
<p>Understanding basic terms on Informatics and Telematics: Computers and processors, classification of computers, structure of computers, programming languages, Operating systems, software technologies, introduction in applications for informatics and telematics, e-commerce, e-health, e-government. Social implications</p> <p>The course aims at:</p> <ul style="list-style-type: none"> ● providing an overview of the applications related to informatics and telematics, with a special focus on e-health and nutrition related applications ● describing the role of the world wide web in providing information for research <p>The course offers to students the knowledge and expertise necessary for understanding Information and Communication Technologies, as a fundamental prerequisite to investigate the role of ICT in health-related domains.</p>
General Abilities
<ul style="list-style-type: none"> ● Decision making ● Autonomous report ● Work in a multidisciplinary environment ● Producing new research ideas

COURSE CONTENT

<ul style="list-style-type: none"> ● Computers and algorithms <ul style="list-style-type: none"> ○ Data and numbers ● Computers organizational structure <ul style="list-style-type: none"> ○ Central processing unit ○ Memory ○ Peripherals connection ● Programming languages classification ● Operating systems <ul style="list-style-type: none"> ○ Components ○ Windows, UNIX, LINUX ● Software technologies ● Applications of ICT <ul style="list-style-type: none"> ○ E-commerce ○ E-health ○ E-government ● Social implications of computers
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- Use of databases in various tasks
- Communication technologies
- Openoffice

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

Face to face

- Lectures in class
- Discussion of case studies
- Lab

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

<i>Activity</i>	<i>Workload (hours per semester)</i>
Lectures and discussion on case studies	39
Self- study	36
Total workload hours	75

STUDENT ASSESSEMENT

Individual written report (100%)

RECOMMENDED READING

- «Introduction in Computer Science». Behrouz A. Forouzan, 2006.
- «Introduction in Modern Computer Science» 5th edition, L. Goldschlager, A. Lister (Μετάφραση Κ. Χαλατσής), 2000.

ORGANIC CHEMISTRY

GENERAL

COURSE CODE	ΓΕ701	SEMESTER	1
TEACHING FACULTY	Tzortzis Nomikos, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	Basic knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET127/			

LEARNING OUTCOMES

Learning Outcomes
<p>Upon successful completion of the course students will be able to: recognize, categorize and classify organic compounds</p> <ul style="list-style-type: none"> ● understand the three-dimensional structure of molecules and to recognize their different three dimension arrangements ● understand the concept of aromaticity ● learn the basic physicochemical properties of the main classes of organic compounds which will permit them to interpret the structure and function of biomolecules in subsequent semesters ● predict and compare basic physicochemical properties of organic compounds based on their structure <p>According to the above the students will:</p> <ul style="list-style-type: none"> ● acquire a set of specialized knowledge about the main categories of organic compounds found in the human organism and foods, which will help them better understand the interaction of nutrients, foods and drugs and the biochemical reactions of the human organism. ● Develop autonomously its knowledge and skills at a higher level.
General Abilities
<ul style="list-style-type: none"> ● Work autonomously ● Advance free, creative and causative thinking

COURSE CONTENT

<p>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.</p>
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
<p>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.</p>
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students ● Reference to internet sites related to the content

TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26
Self- study	49
Total workload hours	75
STUDENT ASSESSEMENT	
<p>The 100% of the final grade comes from a final written exam. The exam contains:</p> <ul style="list-style-type: none"> ● Exercises whose solution requires the application of the theoretical knowledge ● Questions of critical and combinatorial thinking <p>An examination in the English language is also available for the Erasmus students.</p>	

RECOMMENDED READING

- Organic Chemistry, Editor: John McMurry, 9th Edition, 2016 Brooks/Cole
- Organic Chemistry, Editor: D.R.Klein, 2nd Edition, 2013, Wiley

BIostatistics I

GENERAL

COURSE CODE	OK0301	SEMESTER	1
TEACHING FACULTY	Demosthenes Panagiotakos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures, laboratories		
WEEKLY TEACHING HOURS	3	ECTS	5
COURSE TYPE	Compulsory	Basic knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/modules/auth/opencourses.php?fc=8			

LEARNING OUTCOMES

Learning Outcomes
In almost all sciences, the ability to use statistical methods seems to be a useful tool for the promotion and documentation of the scientific knowledge. Especially for health science, statistical analysis is an essential component of the scientific methods as well as the scientific knowledge. The familiarity of students with the application of statistical methods, the use of appropriate statistical software in order to organize and analyze information as well as the fruitful combination of theory and practical training are the main purposes of the course.
General Abilities
<ul style="list-style-type: none"> ● Search, analysis and synthesis of data and information with the use of appropriate technologies ● Independent work ● Decision-making ● Production of new research ideas ● Making criticism and self-criticism

COURSE CONTENT

<ul style="list-style-type: none"> ● Rates and ratios ● Prognostic tools ● Organization and description of statistical data ● Introduction in the use of statistical software ● Probability theory ● Survival analysis ● Probability distributions of discrete and continuous random variables. Bayes' theorem ● Point estimators ● Confidence intervals ● Hypothesis testing of quantitative variables ● Hypothesis testing of categorical variables
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Face to face <ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies ● Practical examples in the laboratory
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure

- Support of the learning process through the electronic e-class platform
- Use of a manual for the statistical software

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	26
Discussion of case studies	13
Self-study of cases – written documentation	41
Self- study	45
Total workload hours	125

STUDENT ASSESSEMENT

Final exam in Greek (100%) which includes:

- Open questions
- Interpretation of statistical results
- Reinforcement of critical thinking

RECOMMENDED READING

- «Βιοστατιστική» των Βασ. Σταυρινού & Δημ. Παναγιωτάκου, εκδόσεις Gutenberg, 2007
- «Αρχές Βιοστατιστικής» (μτφ Ο. Δαφνή), εκδόσεις ΙΩΝ, 2005

FOREIGN LANGUAGE I

GENERAL

COURSE CODE	ΕΓ0101	SEMESTER	1
TEACHING STAFF	Special Teaching Staff English Violeta Aeginitou (PhD) & Nectaria Vlahoyanni (MA) French Athanasia Zissimopoupou (PhD) German Eleni Zenakou (PhD) & Eleftheria Manailoglou (MEd)		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and seminars		
WEEKLY TEACHING HOURS	3	ECTS	3
COURSE TYPE	Compulsory	General knowledge(focus on scientific field)	
PREREQUISITES	There are no prerequisite courses but the students' level of language proficiency determines the foreign language and the level students will attend (see below)		
TEACHING AND EXAMS LANGUAGE	English, French, German		
AVAILABILITY TO ERASMUS STUDENTS	In English, French, German		
Webpage address (URL)			
English	http://eclass.hua.gr/courses/DIET177/		
French	http://eclass.hua.gr/courses/DIET213/		
German	http://eclass.hua.gr/courses/DIET131/		

Registration prerequisites per language

English for Specific and Academic Purposes (Level B2 – C1)

Students who qualify for this course should have attended at least 5-6 years of General English (B2 – C1) prior to University registration and should submit their English Language Certificates along with their placement application form. However students who have not acquired a B2 – C1 Certificate but wish to attend the specific level, have to sit a placement test and achieve a Pass Score (55 +%) in order to join the course.

English for Specific and Academic Purposes (Level C2 Portfolio)

Students who have recently acquired a C2 English language certificate (up to three years prior to their University registration) need to submit it along with their placement application form.

French Level B1 – Intermediate

The course is suitable for students with a good knowledge of basic French (at least level A2). Students should submit their French Language Certificates along with their placement application form.

German Level A1 – Beginners

The course is suitable for complete beginners with no previous knowledge of German (or those who have had only very little contact with the language).

German Level B1 – Intermediate

The course is suitable for students with a good knowledge of basic German (at least level A2).

Please note the following:

- All language groups will be formulated depending also on the number of students.
- Once the registration process is complete students cannot change either level or language.

- The choice of the foreign language by the student remains the same for both semesters.
- Certificate holders are required to submit a copy of their certificate/s along with their placement application form to the departmental secretariat and the foreign language tutors.

LEARNING OUTCOMES

Learning Outcomes
The aims and learning outcomes differ according to the chosen foreign language. In general, students are expected to: <ul style="list-style-type: none"> • acquire and /or develop knowledge in the specific language • familiarise themselves with their field specific academic bibliography
General Abilities
<ul style="list-style-type: none"> • Data collection, analysis and synthesis through the application of technology tools. • Individual and / or team work • Decision making, adaptability to new language environments • peer – and self – assessment • work / career opportunities in international and multidisciplinary environments • Learning to respect diversity and multiculturalism • Encouraging creative and deductive thinking

COURSE CONTENT

It differs depending on the level of the students in every language

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face <ul style="list-style-type: none"> • Lectures in class • Discussion of case studies Distance learning through e class	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> • Use of Power Point for lectures and students' academic presentations • Use of asynchronous e-learning platform for supporting learning procedure • Use of e-mail as means of communication with students • Use of audiolingual equipment (cd players, etc) 	
TEACHING STRUCTURE	
<i>Activity</i>	<i>Workload (hours per semester)</i>
Lectures	30
Seminars	15
Video presentation	5
Self- study	25
Total workload hours 75 (slight variations possible depending on the language choice and the level of students)	
STUDENT ASSESSEMENT	
It depends on the language and the level of students (written exam, academic presentations, written projects and academic essays).	

RECOMMENDED READING and BIBLIOGRAPHY

It depends on the language (consult the individual programme of studies for each language level).

HUMAN PHYSIOLOGY I

GENERAL

COURSE CODE	FE1701	SEMESTER	2
TEACHING FACULTY	Nikos Yiannakouris, Associate Professor Roxane Tenta, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and laboratory exercises		
WEEKLY TEACHING HOURS	4	ECTS	6
COURSE TYPE	Compulsory	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://www.ddns.hua.gr/en/%CE%B3%CE%B51701-human-physiology-i-2/			

LEARNING OUTCOMES

Learning Outcomes
<p>The course gives the student a clear insight into the structure and function of the most important organs and organ systems composing the human organism. General physiological properties and functions of living cells are discussed as well. On successful completion of the modules on Human Physiology students will be able to:</p> <ul style="list-style-type: none"> ● Describe the fundamental mechanisms underlying normal function of cells, tissues, organs, and organ systems of the human body. ● Understand the principles of the systems of the human body that coordinate all physiological functions and explain the basic mechanisms of homeostasis. ● Apply knowledge of functional mechanisms and their regulation to explain the pathophysiology underlying common diseases. ● Identify and utilize appropriate reference resources to clarify and expand knowledge of Physiology. Such knowledge will enable the student to understand relevant scientific literature and offers the basis for the courses on Nutrition.
General Abilities
<ul style="list-style-type: none"> ● Retrieve, analyse and synthesise data and information, with the use of necessary technologies. ● Work autonomously ● Generate new research ideas ● Advance free, creative and causative thinking

COURSE CONTENT

<ul style="list-style-type: none"> ● Basic principles of human physiology, the internal environment and homeostasis, body fluid compartments. ● Movement of molecules across cell membranes. ● Homeostatic mechanism and cellular communication. ● Neural control mechanisms: neural tissue, generation and conduction of action potentials, synaptic transmission. Structure of the nervous system. ● The sensory systems. ● Muscles and the molecular mechanisms of contraction, mechanics of muscle contraction. ● The Blood: blood components, hemostasis and coagulation. Defense mechanisms of the body - the Immune system. <p><i>Excercises:</i> Structure and function of the human body: cells, tissues, organs and organ systems. Nervous and Muscular systems: histology, anatomy and interactive exercises of the functions of the nerve and muscle cells using simulation programs. Composition and properties of blood.</p>

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
<ul style="list-style-type: none"> • Lectures in class • Laboratory exercises in the Microscopy Lab • Interactive exercises using simulation programs in the Computers Lab 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> • Use of Power Point and video projections for lectures presentation • Interactive exercises using simulation programs • Use of asynchronous e-learning platform for supporting learning procedure • Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
<i>Activity</i>	<i>Workload (hours per semester)</i>
Lectures	40
Laboratory work	8
Interactive exercises	4
Educational visits	2
Self- study	96
Total workload hours	150
STUDENT ASSESSEMENT	
<p>The course grade is based on a final written exam. The written exam includes subjects to be quoted and multiple-choice tests. Students are asked to respond on questions related to topics covered both in the lectures (80% of the total grade) and the laboratory/interactive exercises sessions (20% of the total grade). Successful completion of the exercises conducted during the semester is a prerequisite for passing the course.</p>	

RECOMMENDED READING

<ul style="list-style-type: none"> • Widmaier E., Raff H. & Strang K. <i>Vander's Human Physiology</i>, McGraw-Hill, Inc. • Vander A.J., Sherman J.H., Luciano D.S. <i>Human Physiology – The mechanisms of body function</i>, McGraw-Hill, Inc. • Sherwood L. <i>Introduction to Human Physiology</i>, Brooks/Cole. • Fox S.I. <i>Human Physiology</i>, McGraw-Hill, Inc. • Guyton A.C. & Hall J.E. <i>Guyton and Hall Textbook of Medical Physiology</i>. Elsevier Saunders. • Koepfen & Stanton. <i>Berne R.M. & Levy M.N. Principles of Physiology</i>, Elsevier Saunders. • Mulroney S. and Myers A. <i>Netter's Essential Physiology</i>, Elsevier Saunders. • Costanzo L.S. <i>Physiology</i>, Elsevier Saunders. • Boron W., Boulpaep E. <i>Medical Physiology</i>, Elsevier Saunders.

BIOCHEMISTRY I

GENERAL

COURSE CODE	FE0601	SEMESTER	2
TEACHING FACULTY	Smaragdi Antonopoulou, Professor Elizabeth Fragopoulou, Assistant Professor Tzortzis Nomikos, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures, Laboratory		
WEEKLY TEACHING HOURS	6	ECTS	6
COURSE TYPE	Compulsory	Basic knowledge, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET125/			

LEARNING OUTCOMES

Learning Outcomes
<p>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.</p> <p>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.</p>
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Autonomous work ● Team work ● Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

<p>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.</p> <p>Carbohydrates: Monosaccharides (terminology, structure, derivatives), oligosaccharides (sucrose, maltose, isomaltose, lactose, raphinose), polysaccharides, (starch, glycogen, dextrans, cellulose, chitin), glycoproteins, proteoglycans.</p> <p>Lipids: Classification, neutral lipids, polar lipids, lipoproteins.</p> <p><u>Laboratory exercises:</u> Basic analytical methods of isolation, purification, quantitative and qualitative identification of proteins, carbohydrates and lipids</p> <p><u>Laboratory theory:</u> It covers the theoretical background of the techniques and logic of analysis used in the study of biomolecules</p>

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
<ul style="list-style-type: none">● In the classroom● In the laboratory	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none">● Use of Power Point for lectures presentation● Use of asynchronous e-learning platform for supporting learning procedure● Use of e-mail as means of communication with students	
TEACHING STRUCTURE	
<i>Activity</i>	<i>Workload (hours per semester)</i>
Lectures	26
Laboratory exercises	39
Lectures of laboratory theory	13
Self-study of laboratory exercises – written documentation	14
Self- study	58
Total workload hours	150
STUDENT ASSESSEMENT	
I. Successful written final examination on the theory of the course (50%) which includes: <ul style="list-style-type: none">● Quick development questions● Development questions● Comparative evaluation of theory data	
II. Successful laboratory examination (50%) including: <ul style="list-style-type: none">● Oral examination during the laboratory exercises and evaluation of the laboratory ability (30%)● Laboratory final exercise (30%)● Written final examination in laboratory theory (40%)	

RECOMMENDED READINGΣΥΝΙΣΤΩΜΕΝΗ ΒΙΒΛΙΟΓΡΑΦΙΑ

- Basic Biochemistry, C.A. Demopoulos, S. Antonopoulou, Athens, 2009
- Laboratory exercises Biochemistry I, Volume I, Biomolecules Analysis, T.Nomikos, E.Fragopoulou, Athens, 2008
- Lehninger Basic Principles of Biochemistry, Medical Publications Paschalidis, Athens, 2007.
- Lehninger Principles of Biochemistry, by David L. Nelson, Michael M. Cox, Publisher: Worth Publishing; 4th edition
- Biochemistry L. Styer, 4th edition, University Publications of Crete, 1994-1995.

ECONOMICS

GENERAL

COURSE CODE	OK0400	SEMESTER	2
TEACHING FACULTY	Eleni Pastrapa, Teaching Assistant Staff of the Department of Home Economics and Ecology		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	General knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
https://eclass.hua.gr/courses/DIET230/			

LEARNING OUTCOMES

Learning Outcomes
The course aims are: <ul style="list-style-type: none"> ● knowledge of basic concepts of economy, ● conception microeconomics's and macroeconomics's theories and tools, ● ability to analyse economics problems of markets.
General Abilities
<ul style="list-style-type: none"> ● Work in a multidisciplinary environment ● Autonomous work

COURSE CONTENT

<ol style="list-style-type: none"> 1. Introduction in economics 2. The market 3. Demand, Supply, Equality 4. Production and cost 5. Perfect competition and pure monopoly 6. Introduction to macroeconomics 7. Output and aggregate demand 8. Fiscal policy

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face <ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26
Discussion of case studies	19
Self- study	30
Total workload hours	75
STUDENT ASSESSEMENT	

Final written examination (100 %)

RECOMMENDED READING

- Begg, D., Vernasca, G., Fisher, S. and R. Dornbusch (2015), *Εισαγωγή στην Οικονομική*, Εκδ. Κριτική, Αθήνα.
- McConnell. C., Flynn, S. and S. Brue (2016), *Εισαγωγή στην Οικονομική Επιστήμη. Θεωρία και Εφαρμογές*, Εκδ. Rosili, Αθήνα.

PSYCHOLOGY

GENERAL

COURSE CODE	FE2000	SEMESTER	2
TEACHING FACULTY	George Tsitsas, Teaching Assistant Staff of the Department of Home Economics and Ecology		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and seminars		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	General knowledge, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET212/			

LEARNING OUTCOMES

Learning outcomes
<p>The general purpose of the course is to:</p> <ul style="list-style-type: none"> ● Provide the student with all the cognitive and emotional skills requires in order to be able to successfully cope with the challenging environment, first of all in the university and then in the work. ● Provide knowledge and food for thinking on topics related to the processing of cognitive functions such as intelligence, ● Provide knowledge on issues related to eating disorders, their psychological background and ways of therapy ● Provide knowledge on issues related to emotional intelligence and communication skills, ● Inform students about communication issues through experiential exercises.
General Abilities
<ul style="list-style-type: none"> ● Search, analyze and synthesize data and information, using the necessary technologies ● Adaptation to new situations ● Decision making ● Autonomous work ● Respect for diversity and multiculturalism ● Social, professional and ethical responsibility and gender awareness

COURSE CONTENT

<ul style="list-style-type: none"> ● Introduction: Concept, Methods and Ethics of Psychology. ● Brain: The biological background of psychological disorders. ● Diet and brain: Psychological disorders and eating behaviour. ● Intelligence. Assessing intelligence. ● Emotional Intelligence: Theoretical models and assessment. ● Eating disorders: anorexia nervosa, bulimia and Therapy. ● Experiential Seminars: Awareness on personal development and communication.

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
<p>Face to face</p> <ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students

TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26
Discussion of case studies	10
Self-study	39
Total workload hours	75
STUDENT ASSESSEMENT	
Written final exam including: <ul style="list-style-type: none"> ● Multiple choice questions ● Case study analysis ● Oral presentation(optional) 	

RECOMMENDED READING

- Hayes, N. (2001). Introduction to Psychology Athens, Ellinika Grammata
- Morris J. (2011). ABC in eating Disorders, Parisianos.
- Palmer, R. (2006). Eating disorders and treatment, Parisianos.

BIostatistics II

GENERAL

COURSE CODE	OK0302	SEMESTER	2
TEACHING FACULTY	Demosthenes Panagiotakos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures, laboratories		
WEEKLY TEACHING HOURS	3	ECTS	5
COURSE TYPE	Compulsory	Basic knowledge, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/modules/auth/opencourses.php?fc=8			

LEARNING OUTCOMES

Learning Outcomes
The main purpose of Biostatistics II is to familiarize students with the multivariate techniques of data analysis, and especially regression, as well as the application of theory with practical training, with the use of statistical software.
General Abilities
<ul style="list-style-type: none"> ● Search, analysis and synthesis of data and information with the use of appropriate technologies ● Independent work ● Decision-making ● Production of new research ideas ● Promotion of free, creative and inductive thinking

COURSE CONTENT

<ul style="list-style-type: none"> ● Analysis of variance. The problem of multiple comparisons. ● Correlation between 2 variables. Partial correlation. ● Simple linear regression. ● Multiple linear regression. ● Confounders and interaction control. ● Production of regression models. Stepwise process. ● Logistic regression. ● Survival analysis– Cox models
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies ● Practical examples in the laboratory 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Support of the learning process through the electronic e-class platform ● Use of a manual for the statistical software 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26
Discussion of case studies	13

Self-study of cases – written documentation	41
Self- study	45
Total workload hours	125
STUDENT ASSESSEMENT	
Final exam in Greek (100%) which includes:	
- Open questions	
- Interpretation of statistical results	
- Reinforcement of critical thinking	

RECOMMENDED READING

- «Βιοστατιστική» των Βασ. Σταυρινού & Δημ. Παναγιωτάκου, εκδόσεις Gutenberg, 2007
- «Αρχές Βιοστατιστικής» (μτφ Ο. Δαφνή), εκδόσεις ΙΩΝ, 2005

PHYSICS

GENERAL

COURSE CODE	ΓΕ1600	SEMESTER	1
TEACHING FACULTY	Nick Kalogeropoulos, Professor Antonia Chiou, Associate Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	General knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET196/			

LEARNING OUTCOMES

Learning Outcomes
On successful completion of the module the student will be able to: <ul style="list-style-type: none"> • understand the fundamental principles on selected topics of Physics • become familiar with the fundamental principles and Physics laws that are involved in the function of several body systems • become familiar with fundamental principles that are involved in technologies applied for the medical treatment and diagnosis.
General Abilities
<ul style="list-style-type: none"> • Retrieve, analyze and synthesize data and information, with the use of necessary technologies • Autonomous work • Work in an interdisciplinary environment

COURSE CONTENT

<p>Introduction to Experimental Physics: Methodology and instrumentation for the measurement of fundamental physical quantities.</p> <p>Electrochemistry: Half-Reactions; Voltaic cells (construction, notation, cell potential); Standard cell potentials and standard electrode potentials; Equilibrium constants from cell potentials; Some commercial voltaic cells; Electrolytic cells; Electrolysis of molten salts; Aqueous electrolysis; Stoichiometry of electrolysis.</p> <p>Optics: The nature of light; Electromagnetic spectrum; Geometric optics; Spectroscopy (instrumentation, applications, techniques).</p> <p>Thermodynamics: Thermodynamic laws; Entropy, enthalpy, Gibbs free energy; Thermodynamic cycles; Gas kinetic theory; Heat transfer.</p> <p>Atomic and Nuclear Physics: The atom, the nucleus and the nuclear forces; Mass-energy equivalence; Nuclear energy; Nuclear reactors; α-, β-, γ- Radiation; Irradiation effects on living organisms; radioisotopes medical applications</p>
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Face to face <ul style="list-style-type: none"> • Lectures in class
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> • Use of PowerPoint for lectures presentation • Use of asynchronous e-learning platform for supporting learning procedure • Use of e-mail as means of communication with students

TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26
Assignments	10
Autonomous study	39
Total workload hours	75
STUDENT ASSESSEMENT	
Written examination (100%) including: <ul style="list-style-type: none"> ● Essay-type questions ● Conceptual and practice problems 	

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 (in Greek)
- Serway R.A., Physics for Scientists and Engineers, Volume III. (Greek edition)
- Psarrakos K. Medical Physics Volume I & II, ISBN: 960-12-1420-8 & ISBN : 960-12-0622-1, University Studio Press Eds, Thessaloniki (in Greek)

FOREIGN LANGUAGE II

GENERAL

COURSE CODE	ΕΓ0102	SEMESTER	2
TEACHING STAFF	Special Teaching Staff English Violeta Aeginitou (PhD) & Nectaria Vlahoyanni (MA) French Athanasia Zissimopoupou (PhD) German Eleni Zenakou (PhD) & Eleftheria Manailoglou (MEd)		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and seminars		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	General knowledge (focus on scientific field)	
PREREQUISITES	There are no prerequisite courses but the students' level of language proficiency determines the foreign language and the level students will attend (see below)		
TEACHING AND EXAMS LANGUAGE	English, German, French		
AVAILABILITY TO ERASMUS STUDENTS	In English, German, French		
Webpage address (URL)			
English	http://eclass.hua.gr/courses/DIET178/		
French	http://eclass.hua.gr/courses/DIET216/		
German	http://eclass.hua.gr/courses/DIET131/		

Registration prerequisites per language

Consult Foreign Language 1: description and prerequisites

Please note the following:

- All language groups will be formulated depending also on the number of students.
- Once the registration process is complete students cannot change either level or language.
- The choice of the foreign language by the student remains the same for both semesters.
- Certificate holders are required to submit a copy of their certificate/s along with their placement application form to the departmental secretariat and the foreign language tutors.

LEARNING OUTCOMES

Learning Outcomes
The aims and learning outcomes differ according to the chosen foreign language. In general, students are expected to: <ul style="list-style-type: none"> ● acquire and /or develop knowledge in the specific language ● familiarise themselves with their field specific academic bibliography
General Abilities
<ul style="list-style-type: none"> ● Data collection, analysis and synthesis through the application of technology tools. ● Individual and / or team work ● Decision making, adaptability to new language environments ● Peer – and self – assessment ● Work/ career opportunities in international and multidisciplinary environments ● Learning to respect diversity and multiculturalism ● Encouraging creative and deductive thinking

COURSE CONTENT

It differs depending on the level of the students in every language

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

Face to face

- Lectures in class
- Discussion of case studies

Distance learning through e class

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures and students' academic presentations
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students
- Use of audiolingual equipment (cd players, etc)

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	30
Seminars	15
Video presentation	5
Self- study	25
Total workload hours	
75	

(slight variations possible depending on the language choice and the level of students)

STUDENT ASSESSEMENT

It depends on the language and the level of students (written exam, academic presentations, written projects and academic essays).

RECOMMENDED READING and BIBLIOGRAPHY

It depends on the language (consult the individual programme of studies for each language level).

HUMAN PHYSIOLOGY II

GENERAL

COURSE CODE	FE1702	SEMESTER	3
TEACHING FACULTY	Nikos Yiannakouris, Associate Professor Roxane Tenta, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and laboratory exercises		
WEEKLY TEACHING HOURS	4	ECTS	5
COURSE TYPE	Compulsory	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://www.ddns.hua.gr/en/%CE%B3%CE%B51702-human-physiology-i%CE%B9/			

LEARNING OUTCOMES

Learning Outcomes
<p>The course gives the student a clear insight into the structure and function of the most important organs and organ systems composing the human organism. General physiological properties and functions of living cells are discussed as well. On successful completion of the modules on Human Physiology students will be able to:</p> <ul style="list-style-type: none"> • Describe the fundamental mechanisms underlying normal function of cells, tissues, organs, and organ systems of the human body. • Understand the principles of the systems of the human body that coordinate all physiological functions and explain the basic mechanisms of homeostasis. • Apply knowledge of functional mechanisms and their regulation to explain the pathophysiology underlying common diseases. • Identify and utilize appropriate reference resources to clarify and expand knowledge of Physiology. Such knowledge will enable the student to understand relevant scientific literature and offers the basis for the courses on Nutrition.
General Abilities
<ul style="list-style-type: none"> • Retrieve, analyse and synthesise data and information, with the use of necessary technologies. • Work autonomously • Generate new research ideas • Advance free, creative and causative thinking

COURSE CONTENT

<ul style="list-style-type: none"> • The Cardiovascular system: the heart and the vascular system, systemic and pulmonary circulation, integration of cardiovascular function and regulation of systemic arterial pressure. The Lymphatic system. • The Respiratory system: organization and mechanics of the respiratory system, gas exchange and gas transport. • The Kidneys and regulation of water and inorganic ions. • The Digestive system: digestion and absorption of food, gastrointestinal motility and secretions, regulation of gastrointestinal processes. • The Endocrine system: hormonal control mechanisms, regulation of organic metabolism, growth, energy balance and temperature. • Human reproduction and development, pregnancy, lactation. <p><u>Excercises:</u> Methods of evaluation and determination of physiologic parameters in humans (blood pressure, ECG, spirometry, urinary analysis, etc). Anatomy and histology of the Digestive system.</p>

Interactive exercises on the functions of the systems and their organs in the human body (cardiovascular system, digestive system, etc.) using simulation programs.

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

- Lectures in class
- Laboratory exercises in the Microscopy Lab
- Interactive exercises using simulation programs in the Computers Lab

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point and video projections for lectures presentation
- Interactive exercises using simulation programs
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	40
Laboratory work	8
Interactive exercises	4
Educational visits	2
Self- study	71
Total workload hours	125

STUDENT ASSESSEMENT

The course grade is based on a final written exam. The written exam includes subjects to be quoted and multiple-choice tests. Students are asked to respond on questions related to topics covered both in the lectures (80% of the total grade) and the laboratory/interactive exercises sessions (20% of the total grade). Successful completion of the exercises conducted during the semester is a prerequisite for passing the course.

RECOMMENDED READING

- Widmaier E., Raff H. & Strang K. *Vander's Human Physiology*, McGraw-Hill, Inc.
- Vander A.J., Sherman J.H., Luciano D.S. *Human Physiology – The mechanisms of body function*, McGraw-Hill, Inc.
- Sherwood L. *Introduction to Human Physiology*, Brooks/Cole.
- Fox S.I. *Human Physiology*, McGraw-Hill, Inc.
- Guyton A.C. & Hall J.E. *Guyton and Hall Textbook of Medical Physiology*. Elsevier Saunders.
- Koeppen & Stanton. *Berne R.M. & Levy M.N. Principles of Physiology*, Elsevier Saunders.
- Mulroney S. and Myers A. *Netter's Essential Physiology*, Elsevier Saunders.
- Costanzo L.S. *Physiology*, Elsevier Saunders.
- Boron W., Boulpaep E. *Medical Physiology*, Elsevier Saunders.

BIOCHEMISTRY II

GENERAL

COURSE CODE	FE0612	SEMESTER	3
TEACHING FACULTY	Smaragdi Antonopoulou, Professor Elizabeth Fragopoulou, Assistant Professor Tzortzis Nomikos, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures, Laboratory		
WEEKLY TEACHING HOURS	5	ECTS	5
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET126/			

LEARNING OUTCOMES

Learning Outcomes
<p>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.</p>
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Autonomous work ● Team work ● Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

<p>Introduction to metabolism: General metabolic pathways, metabolic control</p> <p>Biological oxidations, electron transfer, respiratory chain, oxidative phosphorylation, photosynthesis, photophosphorylation.</p> <p>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.</p> <p>Intermediate metabolism of lipids: De novo biosynthesis of fatty acids, biosynthesis of unsaturated fatty acids, β-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.</p> <p>Intermediate metabolism of proteins and amino acids: Proteolytic enzymes, metabolism of the $-NH_2$ group, decarboxylation of amino acids, urea cycle. Intermediate metabolism of purines and pyrimidines: Biosynthesis and degradation of purines and pyrimidines, biosynthesis of deoxyribonucleotides.</p> <p><u>Laboratory exercises:</u> 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.</p>
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Laboratory theory: It covers the theoretical background of enzyme kinetics and the methods of analysis of biochemical metabolites in biological samples

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

Face to face

- In the classroom
- In the laboratory

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	26
Laboratory exercises	26
Lectures of laboratory theory	13
Self-study of laboratory exercises – written documentation	13
Self- study	47
Total workload hours	125

STUDENT ASSESSEMENT

I. Successful written final examination on the theory of the course (50%) which includes:

- Quick development questions
- Development questions
- Comparative evaluation of theory data

II. Successful laboratory examination (50%) including:

- Oral examination during the laboratory exercises and evaluation of the laboratory ability (30%)
- Laboratory final exercise (30%)
- Written final examination in laboratory theory (40%)

RECOMMENDED READINGΣΥΝΙΣΤΩΜΕΝΗ ΒΙΒΛΙΟΓΡΑΦΙΑ

- Basic Biochemistry, C.A. Demopoulos, S. Antonopoulou, Athens, 2009
- Laboratories of Biochemistry (Enzymology, Clinical Chemistry), S. Antonopoulou, Athens, 1999
- Lehninger Basic Principles of Biochemistry, Medical Publications Paschalidis, Athens, 2007.
- Lehninger Principles of Biochemistry, by David L. Nelson, Michael M. Cox, Publisher: Worth Publishing; 4th edition
- Biochemistry L. Styer, 4th edition, University Publications of Crete, 1994-1995.

FOOD CHEMISTRY

GENERAL

COURSE CODE	FE1901	SEMESTER	3
TEACHING FACULTY	Vaios Karathanos, Professor Nick Kalogeropoulos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	4	ECTS	5
COURSE TYPE	Compulsory	Basic knowledge, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
https://eclass.hua.gr/courses/DIET162/			

LEARNING OUTCOMES

Learning Outcomes
<p>On successful completion of the module the student will be able to:</p> <ul style="list-style-type: none"> • Understand the properties of basic food ingredients • Become familiar with the principles governing food alteration, preservation, maintenance and treatment. <p>The laboratory work aims to:</p> <ol style="list-style-type: none"> (a) connect theory with corresponding laboratory experiments, (b) provide skills of certain food chemistry laboratory techniques, (c) familiarize students with quantitative determinations-calculations of food composition, making them aware as consumers and as future nutrition professionals
General Abilities
<ul style="list-style-type: none"> • Retrieve, analyze and synthesize data and information, with the use of necessary technologies • Autonomous work • Work in an interdisciplinary environment

COURSE CONTENT

<ul style="list-style-type: none"> • 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 <p>Laboratory Exercises: General and specialized methods for the examination and analysis of foods, complexometric and redox titrations, determination of macro- and microconstituents of various foods.</p>
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
<p>Face to face</p> <ul style="list-style-type: none"> • Lectures in class • Laboratory practice
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> • Use of PowerPoint for lectures presentation • Use of asynchronous e-learning platform for supporting learning procedure • Use of e-mail as means of communication with students
TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	26
Laboratory exercises	26
Assignments	25
Autonomous study	48
Total workload hours	125
STUDENT ASSESSEMENT	
I. Essay type questions, problem solving, laboratory report, assignment, practical exercise	
II. Final grade (100%): final examination 50%, laboratory theory examination 25%, laboratory exercises 0%, practical exercise 10%, report 10%, assignments 5%.	

RECOMMENDED READING

- D. Boskou, "Food Chemistry". Gartaganis Editions, Thessaloniki, 2004 (in Greek).
- K. Sflomos, "Food Chemistry, Theory and Practice", NOTA Publishers, Athens, 2017 (in Greek)
- N.K.Andrikopoulos, "Analysis of Foods", Autoedition, Athens, 2015 (in Greek)

MICROBIOLOGY

GENERAL

COURSE CODE	FE0900	SEMESTER	3
TEACHING FACULTY	Adamantini Kyriacou, Associate Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures & Laboratory exercises		
WEEKLY TEACHING HOURS	3.5	ECTS	5
COURSE TYPE	Compulsory	Basic knowledge, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET146/			

LEARNING OUTCOMES

Learning Outcomes
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.
General Abilities
<ul style="list-style-type: none"> ● Scientific data processing ● Cooperation and work in groups

COURSE CONTENT

<p>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).</p> <p>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.</p>
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
<ul style="list-style-type: none"> ● Lectures in class ● Laboratory exercises 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	24
Laboratory exercises	18

Self- study	80
Total workload hours	122
STUDENT ASSESSEMENT	
The course grade is based both on a final written exam (70%) and on the evaluation of the laboratory exercises (30%)	

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

NUTRITIONAL ASSESSMENT

GENERAL

COURSE CODE	IA1300	SEMESTER	3
NAME OF LECTURER	Yannis Manios, Professor		
COURSE ORGANISATION	Lectures and tutorial lessons		
WEEKLY HOURS	4	ECTS	5
TYPE OF COURSE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Course Website (URL)			
http://eclass.hua.gr/courses/DIET149/			

LEARNING OUTCOMES

Learning Outcomes
<p>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 aims at educating students on the methodologically correct use of techniques and tools used for the assessment of the nutritional status of an individual taking into consideration a set of parameters. The current module is designed to build competence in obtaining and evaluating indicators of the nutritional status of groups or individuals which include:</p> <ul style="list-style-type: none"> ● clinical factors, family and medical history ● dietary factors ● anthropometric and body composition factors ● blood and biochemical factors.
General Competences
<ul style="list-style-type: none"> ● Work autonomously ● Advance free, creative and causative thinking ● Decision making ● Appreciate diversity and multiculturality ● Be critical and self-critical

COURSE CONTENT (SYLLABUS)

<ol style="list-style-type: none"> i. Record of family and medical history. Measurement and assessment of blood pressure. ii. Dietary habits-dietary intake: 24-hour recall, Food records (weighed or not), Food Frequency Questionnaires. iii. Analysis and assessment of micro- and macro- nutrient intakes to evaluate dietary inadequacies or excesses. iv. Validity of the dietary assessment methods. v. Anthropometry and body composition: Assessment of anthropometric measurements (weight, height, BMI, Skin fold calipers). vi. Use of new technologies in body composition assessment, such as bioelectrical impedance (BIA), double energy X-ray absorptiometry (DXA) and ultrasounds. vii. Haematological, biochemical and clinical indices: Assessment of clinical biomarkers related to CVD, diabetes, iron deficiency and osteoporosis.
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TEACHING and LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY
Face to face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES

- Diet analysis software (Diet Analysis Plus, Nutritionist)
- Body composition assessment tools via Bioelectrical Impedance (Body Stat) and Dual energy X-ray absorptiometry (DEXA)
- Bone Sonometer (Sahara Hologic)
- Support of the learning process through the e-class platform

COURSE ORGANISATION

Activity	Workload (hours)
Lectures	28
Laboratory work	28
Individual study	26
Written assignments	43
Total workload hours	125

STUDENTS ASSESSMENT

Written exam of the theory (70% of the total grade) which includes:

- Multiple choice questions
- Short answer questions

Two laboratory assignments (30% of the total grade).

RECOMMENDED BIBLIOGRAPHY

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

NUTRITION ACROSS THE LIFESPAN

GENERAL

COURSE CODE	IA0700	SEMESTER	3
TEACHING FACULTY	Andriana Kaliora, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Theory courses and Lab		
WEEKLY TEACHING HOURS	3	ECTS	4
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/154/			

LEARNING OUTCOMES

Learning Outcomes
<p>Upon successful completion of the course the students will be able to:</p> <ul style="list-style-type: none"> ● understand the physiological changes that take place in humans at the various stages of life ● know the different nutrient intake needs ● understand the factors that influence the choice of foods ● understand the impact of psychological changes <i>-except for the physiological ones-</i> occurring in life stages in eating behaviors and growth ● provide appropriate nutritional recommendations not only for the development but also for chronic disease prevention ● distinguish his role as a Dietician-Nutritionist-Health Care Provider in a real case through case studies ● demonstrate the skills and innovation required to solve nutritional problems at a certain stage of life, manage a case with responsibility for decision-making ● work with his fellow students to create and present a case study
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Adapt in new situations ● Decision making ● Autonomous work ● Team work ● Respect diversity and multiculturalism ● Demonstrate social, professional and ethnical responsibility and sensitivity regarding gender issues ● Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

<p>Theory courses</p> <ul style="list-style-type: none"> ● Introduction to life stages ● Pregnancy-Diet in pregnancy ● Breastfeeding. Nutrition in infancy. ● Nutrition in childhood (toddlers, preschoolers and schoolers) ● Diet in adolescents ● Eating disorders ● Adult nutrition ● Aging-Diet in the elderly ● Dietary habits for the prevention of chronic diseases <p>Lab</p>
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- Case studies in pregnancy (healthy pregnancy, a pregnant woman with gestational diabetes)
- Case study in infancy (growth, the atopic infant)
- Case study in childhood (growth, the obese child)
- Case study in adolescence (growth, the obese adolescent, adolescents with eating disorders)
- Case study in adulthood (dieting adults to prevent chronic diseases)
- Case studies in elderly

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

Face to face:

- Theory lectures in class
- Lab-Case studies practice in class

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

<i>Activity</i>	<i>Workload (hours per semester)</i>
Lectures	26
Discussion of Case studies	13
Self-study of cases – written documentation	11
Self- study	30
Total workload hours	90

STUDENT ASSESSEMENT

Student's grade is based on a final written exam that includes knowledge established in both theory class and in lab (case studies in lifespan)

RECOMMENDED READINGΣΥΝΙΣΤΩΜΕΝΗ ΒΙΒΛΙΟΓΡΑΦΙΑ

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

NUTRITIONAL EPIDEMIOLOGY

GENERAL

COURSE CODE	IA2000	SEMESTER	3
TEACHING FACULTY	Evangelos A Polychronopoulos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and Exercises		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/diet167/			

LEARNING OUTCOMES

Learning Outcomes
<p>The Student must be able to enrich the knowledge and skills concerning :</p> <p>The role of Nutritional Epidemiological Studies , in prevention, etiology, physical history of chronic diseases , in the context of nutritional and medical therapy.</p> <p>The potential of Nutritional Epidemiology towards the strategies to improve nutrition at the individual, Community, Regional, National and European level.</p>
General Abilities
<ul style="list-style-type: none"> ● Retrieve and compare update Nutritional Epidemiology information. ● Work autonomously and interdisciplinary with other scientific groups (Pregraduate training). ● Implement the New Nutrition Science in the context of Nutritional Epidemiology problems solving . ● Acquire distinctive competence and comprehend the role of Nutritional Epidemiology Studies in EU Member States, developing and under developed countries .

COURSE CONTENT

<ul style="list-style-type: none"> ● Epidemiological approach of diet and disease ● Data sources in Epidemiology ● Steps in the design of a nutritional epidemiological study ● Cross sectional, Cohort, Case-Control studies ● Field trials, Community trials, Clinical trials ● Tolerance Studies of Food additives ● Screening ● Sources of variation in the dietary intake-source of bias ● Biochemical Indicators of nutrient intake ● Anthropometry ● Quality assurance in epidemiologic research; ● Diseases of Western civilization; ● Physical History of Disease ● Out breaks Surveillance in Nutritional Epidemiology ● Novel Nutritional Science . Nutritional Epidemiology new scientific directions
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
<p>Face to face</p> <ul style="list-style-type: none"> ● Lectures in class ● Discussion and presentations concerning Nutritional Epidemiology Studies
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation,
- Use of asynchronous e-learning platform for supporting learning procedure with update Nutritional Epidemiology issues
- Use of e-mail and eclass as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	25
Discussion of case studies	25
Self-study of cases – written documentation	10
Students Group workshops and presentations	15
Total workload hours	75

STUDENT ASSESSEMENT

Written Exam(80%) and Students Presentations(20%) concerning Nutritional Epidemiology Studies (pubmed)

RECOMMENDED READINGΣΥΝΙΣΤΩΜΕΝΗ ΒΙΒΛΙΟΓΡΑΦΙΑ

- Margets B, Nelson M. Design concepts in Nutritional Epidemiology. Oxford University press .1997
- Willett W. Nutritional Epidemiology. Oxford University press 1998
- Gordis L. Epidemiology Elsevier Saunders. 2004

APPLIED MICROBIOLOGY

GENERAL

COURSE CODE	FE0100	SEMESTER	4
TEACHING FACULTY	Adamantini Kyriacou, Associate Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures & Laboratory exercises		
WEEKLY TEACHING HOURS	3.5	ECTS	5
COURSE TYPE	Compulsory	Basic knowledge, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET176/			

LEARNING OUTCOMES

Learning Outcomes
To provide the students with basic knowledge on the main microbial groups that are members of the human microbiota and make part of the food microbiota. 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.
General Abilities
<ul style="list-style-type: none"> ● Scientific data processing ● Cooperation and work in groups

COURSE CONTENT

<ul style="list-style-type: none"> ● Description of the most important bacterial groups participating in food microbiota ● The human microbiota ● 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) ● Foodborne diseases <p><u>Laboratory:</u> Bacteriological examination of water – Qualitative tests (Enterobacteriaceae), IMViC tests. The Staphylococci (Isolation and identification from the human microbiota). The Streptococci (Isolation and identification from the human microbiota). Microbial spoilage of meat (chicken) - Salmonella spp. (Isolation and identification). Microbial analysis of traditional foods (feta and salami)</p>
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
<ul style="list-style-type: none"> ● Lectures in class ● Laboratory exercises 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)

Lectures	24
Laboratory exercises	18
Self- study	80
Total workload hours	122
STUDENT ASSESSEMENT	
The course grade is based both on a final written exam (70%) and on the evaluation of the laboratory exercises (30%)	

RECOMMENDED READING

- Brock, Biology of microorganisms, M. Madigan, J. Martinko, J. Parker, Prentice Hall, Inc.
- T. Montville & K. Matthews 2010. Food Microbiology
- J. M. Jay, Modern Food Microbiology

NUTRITION AND MACRONUTRIENT METABOLISM

GENERAL

COURSE CODE	IA0503	SEMESTER	4
TEACHING FACULTY	Labros Sidossis, Professor Katerina Skenderi, Teaching Assistant Staff		
AUTONOMOUS TEACHING ACTIVITIES	Lectures & Laboratory exercises		
WEEKLY TEACHING HOURS	4.5	ECTS	6
COURSE TYPE	Compulsory	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET174/			

LEARNING OUTCOMES

Learning Outcomes
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. Understanding the regulation and integration of macronutrients and the function of the related organs in the body.
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Autonomous work ● Team work ● Producing new research ideas ● Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

<ol style="list-style-type: none"> 1. Cells and their nourishment 2. The digestive system 3. Metabolism of carbohydrates 4. Metabolism and energy transformation 5. Dietary fiber 6. Metabolism of lipids 7. Metabolism of protein 8. Integration and regulation of metabolism 9. Metabolism in special cases as exercise and sepsis

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS		
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies ● Laboratory work 		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES		
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 		
TEACHING STRUCTURE		
<table border="1" style="width: 100%;"> <tr> <td style="width: 60%;">Activity</td> <td style="width: 40%;">Workload (hours per semester)</td> </tr> </table>	Activity	Workload (hours per semester)
Activity	Workload (hours per semester)	

Lectures	39
Laboratories	18
Study and analysis of scientific papers and book chapters	18
Self- study	75
Total workload hours	150

STUDENT ASSESSEMENT

Written Examination (70%)

Written reports for laboratory or outdoor exercise.

Each lab exercise is examined orally and by a written test. The laboratory examination of each subject must be successful. The average of the exercise grades counts 30% in the overall score of the course.

RECOMMENDED READING

- Nutrition and Metabolism, Sidossis L, Skenderi K., Broken Hill Ed, Athens 2016
- Advanced Nutrition and Human Metabolism. Part 1, Gropper S, Smith JL, Groff JL. Greek translation by Sidossis L. Paschalidis Ed, Athens 2007

PHYSICAL CHEMISTRY OF FOODS

GENERAL

COURSE CODE	FE2401	SEMESTER	4
TEACHING FACULTY	Vaios Karathanos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and Laboratory practice		
WEEKLY TEACHING HOURS	4	ECTS	4
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/modules/document/document.php?course=DIET200			

LEARNING OUTCOMES

Learning Outcomes
<p>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. Laboratory exercises aim at:</p> <ul style="list-style-type: none"> ● linking the theory with laboratory practice ● learning of some basic laboratory techniques used in physical chemistry of foods ● calculating and evaluating parameters related to physicochemical phenomena <p>The main objective is to undertake initiatives, to make quick decisions and produce new research ideas</p>
General Abilities
<ul style="list-style-type: none"> ● Search, analyze and synthesize data and information, using the necessary technologies ● Taking initiatives ● Rapid decision making ● Development of new research ideas ● Calculate and evaluate parameters related to physicochemical phenomena ● Performing accurate scientific measurements ● Autonomous work ● Team work ● Work in a multidisciplinary environment ● Practice critical judgment

COURSE CONTENT

<p>Theory: 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. Air Drying. Freeze Drying. Food processing and food packaging. Thermal processes, UHT, HTST. Aseptic packaging. Pasteurization, Sterilization. Novel food processes. Extrusion. 3-D Food Printing. Ohmic heating. Retention of vitamins during processing.</p> <p>Laboratory Practice: Physicochemical examination of foods: viscometry and food rheology, calorimetry of foods, diffractometry, polarimetry, liquid chromatography, gas chromatography, water activity and sorption isotherms, food product development, kinetics of deteriorative reactions of foods.</p>
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

Face to face	
<ul style="list-style-type: none"> ● Lectures in class ● Practice in the laboratory 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26
Laboratory practice	26
Self-study for the laboratory exercises	6
Assignments for the class theory and practice	12
Autonomous study	20
Total workload hours	100
STUDENT ASSESSEMENT	
<p>I. Essay-type questions, problem solving, laboratory report, assignment, practical exercise</p> <p>II. Final examination 50%, laboratory exercises 0%, laboratory theory examination 25%, practical exercise 10%, Report 10%, assignment 5%, total 100%</p> <p>The assessment criteria are accessible by the students on the course webpage and are announced in the laboratory classes. The requirement of 100% attendance of laboratory classes is emphasized.</p>	

RECOMMENDED READING

<ul style="list-style-type: none"> ● Schwartzberg, H.G. & Hartel, 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 Physical Chemistry. Foods (Notes). University of Thessaloniki, Thessaloniki. ● Karaiskakis, G.S., 1998. Physical Chemistry .Travlos-Kostaraki (Ed.), Athens. ● Arvanitoyannis, I.S., 2001. Technology, processing and packaging of foods. University Studio Press (Ed.), Thessaloniki. ● Heldman, D. & Singh, R.P., 2014. Food Process Engineering, AVI, Van Nostrand, Reinhold, New York. ● Papadakis, S., 2010. Food Packaging, Tzolas (Ed.), Thessaloniki. ● Ritzoulis, C., 2011. Physical Chemistry of Food. Tzolas (Ed.), Thessaloniki. ● Karathanos, V.T., 2015. Physical Chemistry of Foods (Notes). Harokopion University, Athens.

INTRODUCTION TO CLINICAL NUTRITION

GENERAL

COURSE CODE	IA3500	SEMESTER	4
TEACHING FACULTY	Mary Yannakoulia, Associate Professor		
AUTONOMOUS TEACHING ACTIVITIES	Different teaching types		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://www.ddns.hua.gr/~tmimadiaitologias/en/content/pDsemester.html			

LEARNING OUTCOMES

Learning Outcomes
<p>The objective of the course is to introduce students to the nutrition care process, its stages, charting and documentation.</p> <p>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, in a position to develop a dietary plan and proceed to dietary modifications according to patients' needs. Nutrition care for overweight/obese patients is included in this course.</p>
General Abilities
<ul style="list-style-type: none"> ● Decision making ● Working autonomously ● Working in teams ● Planning and work management ● Respect to diversity and multiculturality ● Social and professional responsibility, ethics, respect to gender issues ● Critical thinking ● Advance free, creative and causative thinking

COURSE CONTENT

<ul style="list-style-type: none"> ● Introduction: Stages of the nutrition care process. ● Nutrition care plan: Charting and documentation. ● Assessment of nutritional status: <ul style="list-style-type: none"> - 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.

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> • Power point presentations in the classroom • E-mail contact with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	13
Lab work (case studies, during course hours, in small groups, under supervision)	13
Case studies (home work)	20
Study and analysis of scientific evidence	3
Autonomous study	26
Total workload hours	75
STUDENT ASSESSEMENT	
<p>I. . Written reports for lab work (30%)</p> <p>II. Written Examination (70%) including:</p> <ul style="list-style-type: none"> - Multiple choice questions - Questions requiring brief response - One case study 	

RECOMMENDED READING

- Κοντογιάννη Μ, Γιαννακούλια Μ, Καράτζη Κ, Φάππα Ε. Εγχειρίδιο Κλινική Διατροφής. Ελληνικά Ακαδημαϊκά Ηλεκτρονικά Συγγράμματα και Βοηθήματα, ΣΕΑΒ, 2015 (www.kallipos.gr).
- Mahan LK, Escott-Stump S, Krause's Food, Nutrition and Diet Therapy, 13th Edition. Philadelphia: Saunders, 2011 (μετάφραση στα Ελληνικά, Εκδ. Λίτσας 2012).
- Fischbach F. Εγχειρίδιο εργαστηριακών εξετάσεων. Ιατρικές εκδόσεις «Π.Χ. Πασχαλίδης», 1999.
- Ζαμπέλας Α (επιμ). Κλινική Διαιτολογία και Διατροφή με Στοιχεία Παθολογίας. Ιατρικές εκδόσεις «Π.Χ. Πασχαλίδης», 2007.
- Grant A, DeHoog S. Nutritional Assessment and Support, 4th Edition. Seattle: Self-publication, 1997.
- Hakel-Smith N, Lewis NM. A standardized nutrition care process and language are essential components of a conceptual model to guide and document nutrition care and patient outcomes. *J Am Diet Assoc* 2004; 104:1878-1884.
- Jensen MD, Ryan DH, Apovian CM, Ard JD, Comuzzie AG, Donato KA, Hu FB, Hubbard VS, Jakicic JM, Kushner RF, Loria CM, Millen BE, Nonas CA, Pi-Sunyer FX, Stevens J, Stevens VJ, Wadden TA, Wolfe BM, Yanovski SZ, Jordan HS, Kendall KA, Lux LJ, Mentor-Marcel R, Morgan LC, Trisolini MG, Wnek J, Anderson JL, Halperin JL, Albert NM, Bozkurt B, Brindis RG, Curtis LH, DeMets D, Hochman JS, Kovacs RJ, Ohman EM, Pressler SJ, Sellke FW, Shen WK, Smith SC, Jr., Tomaselli GF. 2013 AHA/ACC/TOS guideline for the management of overweight and obesity in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society. *Circulation* 2014; 129:S102-138.
- Reilly HM. Screening for nutritional risk. *Proc Nutr Soc.* 1996; 55: 841-53.

NUTRITIONAL ANTHROPOLOGY

GENERAL

COURSE CODE	IA400	SEMESTER	4
TEACHING FACULTY	Antonia Matalas, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures, visits in the field, meetings		
WEEKLY TEACHING HOURS	3	ECTS	4
COURSE TYPE	Compulsory	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/DIET184/			

LEARNING OUTCOMES

Learning Outcomes
<p>On successful completion of the module the student will be able to:</p> <ul style="list-style-type: none"> • describe the role of environmental and cultural factors in shaping peoples' diets. • appreciate the nutritional and environmental importance of local food products and cuisines. • use knowledge and understanding in communicating qualitative data on procurement and consumption of food. • understand the origin of the dietary habits that are characteristic of various ethnic and religious groups. • handle literature and other data for producing short scientific essays. • identify the background of the dietary habits that prevail in Greece.
General Abilities
<ul style="list-style-type: none"> • Team work • Work in a multidisciplinary environment • Promotion of unrestrained, creative and deductive thoughts • Respect diversity and multiculturalism • Be critical

COURSE CONTENT

<p>Human dietary habits and their diversity. The processes of dietary selection and its socio-cultural, environmental and biological determinants. Human evolution, dietary adaptation and nutritional status. Methodologies in studying ancient diets. Cuisine as a biocultural trait. World history of food. Food and identity; the role of religion and ideology in shaping dietary patterns. Nutrition in Greece. The demand for dietary reform in modern societies.</p>
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
<ul style="list-style-type: none"> • Lectures in class • Mentoring of projects 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> • Power point presentation • Support of the learning process through the electronic e-class platform • Data and information searching in international databases 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26

Project mentoring	20
Visits in the field / Little team-exercises	18
Autonomous study	36
Total workload hours	100

STUDENT ASSESSEMENT

I. Written examination (70%) including:

- Short answers
- Multiple choice questions

II. Project essay (30%).

The evaluation of the essay is based on three criteria: a) adequate substantiation of the topic, b) originality of the research involved, and c) organization of the text and overall presentation

RECOMMENDED READING

- Davidson, A. *The Oxford companion to food*, Oxford University Press, Oxford, 2006.
- Kiple K. and Ornelas K. (eds). *The Cambridge World History of Food*, Cambridge University Press, Cambridge, 2000 (<http://www.sirc.org/timeline/timeline.shtml>).
- Matalas A. *Food and Culture [Διατροφή και Πολιτισμός. Βιοπολιτισμικές Προσεγγίσεις της Επιλογής Τροφής]* e-book/e-pub, Hellenic Academic Textbooks, 2015.
- Montanari M. *La fama e l'abbondanza*, English translation: *The Culture of Food*, Blackwell, 1996.

PATHOPHYSIOLOGY I

GENERAL

COURSE CODE	IA1103	SEMESTER	4
TEACHING FACULTY	George Papanikolaou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	3	ECTS	3
COURSE TYPE	Compulsory	Basic knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET211/			

LEARNING OUTCOMES

Learning Outcomes
<ul style="list-style-type: none"> ● To understand the etiology and pathogenesis of human disease states ● To understand the etiology and pathogenesis of human disease states that need special dietetic management ● 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
General Abilities
<ul style="list-style-type: none"> ● Autonomous work ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

<ol style="list-style-type: none"> 1. Inborn errors of metabolism – Inherited metabolic diseases (Phenylketonuria, Hemochromatosis etc.) 2. Diseases of blood (anaemia, iron deficiency anemia, folate and Vit B12 deficiency) 3. Diseases of coagulation (hemostasis, inherited and acquired diseases of blood coagulation, thrombophilia and anticoagulants) 4. Diseases of endocrine function, diseases of pituitary gland 5. Diseases of thyroid gland 6. Acid-base balance, water and electrolytes 7. Renal diseases (acute and chronic renal failure) 8. Diseases of the respiratory system 9. Atherosclerosis and coronary artery disease 10. Hypertension and cardiac failure 11. Diabetes mellitus 12. Neoplastic diseases
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Face to face
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students

TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	39
Discussion of case studies	3
Self-study of cases – written documentation	7
Self- study	26
Total workload hours	75
STUDENT ASSESSEMENT	
Written exams (100%)	

RECOMMENDED READING

- Ivan Damjanov MD PhD, Pathophysiology, 1st edition, Saunders, 2008
- Michael N. Hart, Agnes G. Loeffler. Introduction to Human Disease: Pathophysiology For Health Professionals Jones & Bartlett Learning, 2012

PHARMACOLOGY

GENERAL

COURSE CODE	IA1200	SEMESTER	4
TEACHING FACULTY	Maria Skouroliakou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	Basic knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET195/			

LEARNING OUTCOMES

Learning Outcomes
The course introduces the students to the Basic Concepts in Pharmacology. The students should know the mechanism of action of the drug in each pharmacology category and also certain concepts and definitions. They will be able to review some biochemistry and physiology, reinforcing previously learned concepts. They will learn the indications, side effects of the drugs, the drug interactions and the drug pharmacokinetic action.
General Abilities
<ul style="list-style-type: none"> • Data and information searching, analysis and synthesis, with the support of proper technologies

COURSE CONTENT

<ul style="list-style-type: none"> • Fundamentals of Pharmacotherapy • Medicines that affect the nervous, cardiovascular and endocrine systems • Drugs for other disorders • Chemotherapeutic Medicines • Clinical Toxicology
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
<ul style="list-style-type: none"> • Lectures in class 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> • Use of Power Point for lectures presentation • Use of asynchronous e-learning platform for supporting learning procedure • Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26
Self-study of cases – written documentation	14
Self- study	35
Total workload hours	75
STUDENT ASSESSEMENT	
Written Examination (100%)	

RECOMMENDED READING

<ul style="list-style-type: none"> • Richard A Harvey, Pharmacology 6th edition Parisianou S.A. 2015
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CLINICAL NUTRITION I

GENERAL

COURSE CODE	IA0801	SEMESTER	5
TEACHING FACULTY	Meropi Kontogianni, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and clinical case studies		
WEEKLY TEACHING HOURS	6	ECTS	6
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://www.ddns.hua.gr/~tmimadiatologias/gr/content/pEsemister.html http://eclass.hua.gr/courses/DIET137/			

LEARNING OUTCOMES

Learning Outcomes
<p>The objective of the course is to provide knowledge in the field of medical nutrition therapy for acute and chronic diseases. During the course, students will study the nutrition care process for people suffering from several diseases, by combining knowledge from other courses such as biochemistry, physiology and pathophysiology. Students will also implement proper nutritional interventions on a group or individual level. On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> ● Identify the connection between prevention and treatment. ● Understand the evolution dynamic of Nutrition and Dietetics, through clinical applications and studies ● Acquire analytical and advanced knowledge in the field of Nutrition and Dietetics regarding special population groups that suffer from a disease or are at risk of a disease.
General Abilities
<ul style="list-style-type: none"> ● Apply specialised knowledge and competencies regarding the nutrition care process through the treatment of case studies. ● Decision making based on clinical/literature data. ● Problem solving aiming at improving interventions efficacy. ● Monitoring interventions efficacy through proper indices and revision of milestones and objectives when necessary. ● Respect culture, equality and diversity on practice. ● Retrieve, analyse and synthesise data and information, with the use of necessary technologies. ● Work autonomously. ● Generate new research ideas. ● Advance free, creative and causative thinking.

COURSE CONTENT

<p>This course gives emphasis on the nutritional assessment and diagnosis, intervention and follow up of patients suffering from disease related malnutrition, cardiovascular diseases, diabetes mellitus, renal disease, pulmonary disease, autoimmune systematic disorders, HIV infection-AIDS and anemias.</p> <p><i>Case studies:</i> development of a complete nutrition care process in cases of malnutrition, dyslipidemia, coronary heart disease, hypertension, metabolic syndrome, type 1 and 2 diabetes mellitus, chronic kidney disease and failure, HIV infection, chronic obstructive pulmonary disease.</p>
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
<ul style="list-style-type: none"> ● Lectures in class

<ul style="list-style-type: none"> ● Discussion on clinical case studies 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point and video projections for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	39
Clinical case Studies	39
Self study of case studies- written documentation	20
Self- study	55
Total workload hours	153
STUDENT ASSESSEMENT	
<p>The course grade is based on a grade from the study of clinical cases (40%) and on a final written exam. The written exam includes issues to be quoted and multiple-choice tests. Students are asked to respond on questions related to topics covered in the lectures (30% of the total grade) and to describe a complete nutrition care plan for a clinical case (30% of the total grade).</p> <p>Prerequisite for passing the course is the successful completion of the clinical case studies conducted during the semester. Furthermore, students should have a pass grade in all the three grades mentioned above.</p> <p>This information can be accessed at the course's website and at the Asynchronous Teleteaching Platform (e-class).</p>	

RECOMMENDED READING

<ul style="list-style-type: none"> ● Kontogianni M, Yannakoulia M, Karatzi KA, Fappa E. Manual of Clinical Nutrition. Kallipos Repository 2015, https://repository.kallipos.gr/bitstream/11419/1940/1/15253_master_document%20Kontogianni-KOY.pdf ● Mahan K.L. & Escott-Stump S. Krause's Κλινική Διατροφή. Ιατρικές εκδόσεις Λίτσας, Αθήνα 2014. ● Ζαμπέλας Α. Κλινική Διατροφή-Διατολογία, τόμος Ι & ΙΙ, Εκδόσεις Πασχαλίδης, 2007. ● Gibney MJ, Elia M, Ljungqvist O, Dowsett J. Κλινική Διατροφή. Εκδόσεις Παρισιάνου, 2010. ● Fischbach F. Εγχειρίδιο Εργαστηριακών Εξετάσεων, Εκδόσεις Πασχαλίδης, 2005. ● Καλφαρέτζος Φ. Αρχές Τεχνητής Διατροφής. Θεωρία & Πράξη, Εκδόσεις Παρισιάνου, 2005. <p>Indicative scientific journals: American Journal of Clinical Nutrition, Clinical Nutrition, European Journal of Clinical Nutrition, Lancet, New England Journal of Medicine, Circulation, Diabetes Care</p>

ARTIFICIAL NUTRITION (ENTERAL AND PARENTERAL NUTRITION)

GENERAL

COURSE CODE	IA3301	SEMESTER	5
TEACHING FACULTY	Maria Skouroliakou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and clinical cases		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET159/			

LEARNING OUTCOMES

Learning Outcomes
The course provides information on the implementation of nutrition support. It describes methods for achieving safe and effective nutrition support. It addresses indications for artificial nutrition support. It addresses nutrition requirements for specific conditions and disease pattern. It addresses complications of nutrition support that inquiries specific monitoring. It articulates methods of nutrition support useful for the implementation of clinical practice.
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Decision making ● Team work ● Project design and management

COURSE CONTENT

<ul style="list-style-type: none"> ● Meeting patients' needs ● Basic Nutritional Background and Pharmaceutical Aspects ● Techniques of administration of Parenteral and Enteral Feeding ● Parenteral and Enteral Nutrition Implementation and Management ● Patient Monitoring ● Metabolic Complications ● Nutrition in Clinical Conditions ● Immunological Effect of Malnutrition ● Enteral Formulations ● Parenteral Formulations
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
<ul style="list-style-type: none"> ● Lectures in class 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	24
Clinical case Studies on Parenteral and Enteral Nutrition	25

Self-practices of cliical cases – written documentation	10
Engaging students in visiting an intensive care unit	
Self- study	16
Total workload hours	75
STUDENT ASSESSEMENT	
Written Examination (100%)	

RECOMMENDED READING

- Lubos Sobotka, Basics in Clinical Nutrition, fourth edition, Galen, 2011
- Russell Merrit, The A.S.P.E.N. Nutrition Support Practice Manual, second edition, The American Society for Parenteral and Enteral Nutrition, 2005
- Nutrition, The International Journal of Applied and Basic Nutritional Sciences, Elsevier
- Current scientific literature

FOOD SERVICE HYGIENE

GENERAL

COURSE CODE	FE2900	SEMESTER	5
TEACHING FACULTY	George Boskou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Teaching lectures and practical exercises		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET141/			

LEARNING OUTCOMES

Learning Outcomes
The aim of the course is to teach at the students the food hazards and the measures to deal with them but mainly to manage a food safety system. The training of dietitians on food hygiene and safety is a prerequisite for working in places where, directly or indirectly, they come into contact with foodstuffs intended for human consumption. The course includes practical exercise with mandatory attendance for the final documentation of the training, according to the requirements of the national food control authority (EFET) or relevant food safety certification bodies.
General Abilities
<ul style="list-style-type: none"> ● Decision making ● System design and management

COURSE CONTENT

Food Safety Principles, Biological, Physical and Chemical Hazards, Allergens, Personnel Requirements, Good Hygiene Practices, Good Catering Practices, Hygiene Legislation, Hygiene Audit, Documentation Requirements, Principles of HACCP, HACCP Planning Exercise.
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies ● Practical exercise 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of multimedia for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of electronic databases 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	13
Practical exercises	13
Preparation of personal work	26
Self- study	26
Total workload hours	75
STUDENT ASSESSEMENT	
Students must attend at least 11 of the 13 hourly practicals. Two absences are only acceptable if they are justified. In any other case they will have to repeat the course in the next academic year.	

Written examination of the course takes place during the examination periods of the Department. Written examinations include the analysis of special topics, short exercises and multiple choice questions. The maximum grade of the written test is $\alpha = 70/100$. Teamwork is compiled at the end of the semester and is delivered as electronic files via e-class. The maximum degree of work is $\beta = 30/100$. Out-of-date work is rated at 20/100. The final grade is $(\alpha + \beta) / 10$. It is also possible to prepare a dissertation in this particular subject.

RECOMMENDED READING

- Codex Alimentarius, Food Hygiene (BASIC Texts), 4th edition, ISBN 978-92-5-105913-5
- Mortimore, S. & Wallace, C., HACCP, A Practical Approach, 2013, Springer US, 978-1-4899-8640-5
- Sibel Roller, Essential Microbiology and Hygiene for Food Professionals, 2012, CRC Press, ISBN 9781444121490
- Τζιά Κ. και Παππά Φ., Ανάλυση επικινδυνότητας στα κρίσιμα σημεία ελέγχου (HACCP) σε χώρους μαζικής εστίασης. Εκδόσεις Παπασωτηρίου 2005, ISBN 960-7530-59-4
- Αρβανιτογιάννης Ι.Σ. και Τζούρος Ν.Η., Το νέο πρότυπο ποιότητας και ασφάλειας τροφίμων ISO 22000. Εκδόσεις Σταμούλη 2006, ISBN: 960-351-651-1

PUBLIC HEALTH NUTRITION

GENERAL

COURSE CODE	IA2000	SEMESTER	5
TEACHING FACULTY	Evangelos A Polychronopoulos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and Case studies		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/diet169/			

LEARNING OUTCOMES

Learning Outcomes
<p>The Student must be able to enrich the knowledge and skills concerning :</p> <p>The role of Nutrition and other Environmental factors in the etiology of chronic diseases and novel syndromes .</p> <p>The conditions predisposing to Public Health problems.</p> <p>The potential of Public Health Nutrition and the strategies to improve nutrition at the individual, Community, Regional, National and European level.</p>
General Abilities
<p>Retrieve and compare update Public Health Nutrition information.</p> <p>Work autonomously and interdisciplinary with other scientific groups (Pregraduate training).</p> <p>Implement the New Nutrition Science in the context of Public Health Nutrition problems solving .</p> <p>Acquire distinctive competence and comprehend the role of accredited Public Health Nutrition Laboratories Procedures in EU Member States, developing and under developed countries .</p>

COURSE CONTENT

<ul style="list-style-type: none"> ● Public Health Nutrition and Environmental Problems in developed and developing countries . * Overview of Global Nutrition and Health during crisis . Healthy People 2010- 2020 . ** ● Diet in the prevention of cancer.* Cancer specific training programs with European Dimension.** ● Nutritional surveillance . Applications at the population level.* EU accredited Laboratories in Developing Countries. BSE case study.** ● Novel and functional foods in relation to diet and health.* Food safety and GMOs.** ● Traditional diets.vs New Nutrition Science in the 21st Century* Nutrient and energy intakes. Dietary reference values.** ● Scientific knowledge and dietary guidelines, recommendations.* Food safety and consumer protection. Endocrine Disruptors** ● Nutrition and the Elderly.* Food patterns in developing and developed countries. Case study.** ● Interactions among Nutrition, lifestyle, genetic and other risk factors.* Case study, Diet and CHD, morbid obesity.** ● Effectiveness of Health Promotion, Nutrition Policies and Programmes.* Case study a feasibility intervention study.** ● Nutrition, Health systems and priorities.* Case study . The Greek , Mediterranean Paradox.**

- The role of Public Health Nutrition, New Nutrition Science and e-health.*
The world food situation. Students presentations.**

*Lecture, **Practical

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
<ul style="list-style-type: none"> ● Lectures in class ● Discussion and presentation of case studies concerning novel public health nutrition diseases and syndromes 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation, ● Use of asynchronous e-learning platform for supporting learning procedure with update Public Health Nutrition issues ● Use of e-mail and eclass as means of communication with students 	
TEACHING STRUCTURE	
<i>Activity</i>	<i>Workload (hours per semester)</i>
Lectures	30
Discussion of case studies	10
Self-study of cases – written documentation	5
Students Group workshops and presentations	5
Total workload hours	50
STUDENT ASSESSEMENT	
Written Exam(80%) and Students Presentations(20%) case studies concerning Global Public Health Nutrition surveillance and monitoring issues	

RECOMMENDED READINGΣΥΝΙΣΤΩΜΕΝΗ ΒΙΒΛΙΟΓΡΑΦΙΑ

Public Health Nutrition Ed M Gibney, B Margetts J Kearney, L Arab
Public Health Nutrition J (Pubmed 1999- 2017)
www.ethnikoidiatrofikoiodigi.gr
Endocrine disrupting chemicals. WHO Report

NUTRITION AND MICRONUTRIENT METABOLISM

GENERAL

COURSE CODE	IA0504	SEMESTER	5
TEACHING FACULTY	Konstantinos Tsigos, Professor Katerina Skenderi, Teaching Assistant Staff		
AUTONOMOUS TEACHING ACTIVITIES	Lectures & Laboratory exercises		
WEEKLY TEACHING HOURS	4.5	ECTS	6
COURSE TYPE	Compulsory	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET134/			

LEARNING OUTCOMES

Learning Outcomes
<ul style="list-style-type: none"> ● To understand the role of digestion, absorption, bioavailability and metabolism of vitamins, minerals and water. ● To understand the interactions of micronutrients with macronutrients and intermediates of metabolism. ● To understand the regulation and integration of micronutrients and the function of the related organs in the body. ● To understand the human energy requirement, nutrition and body composition ● To understand the role of micronutrients and macronutrients on immunity system and their involvement in obesity and other metabolic diseases.
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Autonomous work ● Team work ● Producing new research ideas ● Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

<ol style="list-style-type: none"> 1. Body composition and energy expenditure 2. Body weight control 3. Body fluid and electrolyte balance 4. Energy balance and methods for the measurement of body composition 5. The water-soluble vitamins 6. The fat-soluble vitamins 7. The antioxidant Nutrients and the reactive species 8. Macrominerals (Calcium, Phosphorus, Magnesium) 9. Macrominerals (Sodium, Potassium, Chloride) 10. Microminerals (Iron, Zinc, Copper, Selenium) 11. Other microminerals 12. Ultratrace elements
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies

<ul style="list-style-type: none"> ● Laboratory work 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	39
Laboratories	18
Study and analysis of scientific papers and book chapters	18
Self- study	75
Total workload hours	150
STUDENT ASSESSEMENT	
<p>Written Examination (70%)</p> <p>Written reports for laboratory or outdoor exercise</p> <p>Each lab exercise is examined orally and by a written test. The laboratory examination of each subject must be successful. The average of the exercise grades counts 30% in the overall score of the course.</p>	

RECOMMENDED READING

<ul style="list-style-type: none"> ● Nutrition and Metabolism, Sidossis L, Skenderi K., Broken Hill Ed, Athens 2016 ● Advanced Nutrition and Human Metabolism. Part 2, Gropper S, Smith JL, Groff JL. Greek translation by Sidossis L. Paschalidis Ed, Athens 2007 ● Introduction in human nutrition (GIBNEY M.J., VORSTER H.H., KOK F.J. – Greek translation by Matala A., Yannakoulia M.

NUTRITION & EXERCISE

GENERAL

COURSE CODE	IA1900	SEMESTER	5
TEACHING FACULTY	Labros Sidossis, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	4	ECTS	5
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET104/index.php			

LEARNING OUTCOMES

Learning Outcomes
<p>The objective of the course is to educate the students concerning the important relationship between nutrition and exercise. Furthermore, to present the specific nutritional needs of athletes and active individuals in general. During the semester the metabolic pathways and needs in macro- and micro-nutrients during exercise will also be discussed.</p> <p>On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> ● Understand the basic principles of sports nutrition ● Get informed about the role of nutritional support in athletic performance and its influence in training induced adaptations ● Understand the mechanism of action of nutrients in athletic performance
General Abilities
<ul style="list-style-type: none"> ● Retrieve, analyze and synthesize data and information, with the use of necessary technologies. ● Work autonomously. ● Generate new research ideas. ● Advance free, creative and causative thinking.

COURSE CONTENT

<ul style="list-style-type: none"> ● Introduction to nutrition & exercise ● Energy production during exercise ● Regulation of protein and amino acids metabolism ● Thermoregulation ● Fluid balance during exercise: hydration, dehydration, hypohydration, rehydration ● Carbohydrate metabolism during exercise. The role of CHO intake during exercise. ● Physical activity and health. ● Carbo-loading ● Metabolism and nutritional needs of micronutrients ● Hyponatremia, rehydration and sports drinks ● Ergogenic supplements
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
<ul style="list-style-type: none"> ● Lectures in class ● Laboratory testing
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point and video projections for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	26
Consultation	19
Discussion and analysis of scientific papers and book chapters	20
Self study of case studies- written documentation	25
Self- study	35
Total workload hours	125

STUDENT ASSESSEMENT

The course grade is based on

Lab tests: 30%

Every student has to submit an essay based on a case study presented in the laboratory, the week before.

Examination: 70%

Based on the lectures, presentations and recent peer-reviewed articles

This information can be accessed at the course's website and at the Asynchronous Teleteaching Platform (e-class).

RECOMMENDED READING

- Williams H. Melvin, Dawn E. Anderson, and Eric. S. Rawson. "Nutrition for Health, Fitness & Sport (10th edition)". McGraw-Hill Companies, Inc. 2012.
- Position of the American Dietetic Association, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and Athletic Performance, J Am Diet Assoc 2016.
- Physical activity and health. Surgeons General Report. 2014.

PATHOPHYSIOLOGY II

GENERAL

COURSE CODE	IA1102	SEMESTER	5
TEACHING FACULTY	George Papanikolaou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	3	ECTS	4
COURSE TYPE	Compulsory	Basic knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET203/			

LEARNING OUTCOMES

Learning Outcomes
<ul style="list-style-type: none"> ● To understand the etiology and pathogenesis of human disease states ● To understand the etiology and pathogenesis of human disease states that need special dietetic management ● 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
General Abilities
<ul style="list-style-type: none"> ● Autonomous work ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

<ol style="list-style-type: none"> 1. Disease and symptoms of the upper GI system and biliary tract 2. Diseases of small and large intestine (diarrhea, constipation, malabsorption / celiac disease, IBD, lactose intolerance) 3. Diseases of the liver 4. Pancreatic diseases 5. Neurologic diseases and dementia 6. Maturation of the immune system, breast feeding and reactions of the immune system to nutrients 7. Gout 8. Autoimmune diseases 9. Infectious diseases and AIDS 10. Regulation of appetite and body weight / obesity anorexia and bulimia nervosa 11. Hypothalamic and pituitary gland disorders 12. Adrenal disorders 13. Bone disorders and osteoporosis

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Face to face
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students

TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	39
Discussion of case studies	3
Self-study of cases – written documentation	27
Self- study	31
Total workload hours	100
STUDENT ASSESSEMENT	
Written exams (100 %)	

RECOMMENDED READING

- Ivan Damjanov MD PhD, Pathophysiology, 1st edition, Saunders, 2008
- Michael N. Hart, Agnes G. Loeffler. Introduction to Human Disease: Pathophysiology For Health Professionals Jones & Bartlett Learning, 2012

CLINICAL NUTRITION II

GENERAL

COURSE CODE	IA0802	SEMESTER	6
TEACHING FACULTY	Meropi Kontogianni, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and clinical case studies		
WEEKLY TEACHING HOURS	6	ECTS	6
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://www.ddns.hua.gr/~tmimadiaitologias/gr/content/pFsemister.html			
http://eclass.hua.gr/courses/DIET183/			

LEARNING OUTCOMES

Learning Outcomes
<p>The objective of the course is to provide knowledge in the field of medical nutrition therapy for acute and chronic diseases. During the course, students will study the nutrition care process for people suffering from several diseases, by combining knowledge from other courses such as biochemistry, physiology and pathophysiology. Students will also implement proper nutritional interventions on a group or individual level. On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> ● Identify the connection between prevention and treatment. ● Understand the evolution dynamic of Nutrition and Dietetics, through clinical applications and studies ● Acquire analytical and advanced knowledge in the field of Nutrition and Dietetics regarding special population groups that suffer from a disease or are at risk of a disease.
General Abilities
<ul style="list-style-type: none"> ● Apply specialized knowledge and competencies regarding the nutrition care process through the treatment of case studies. ● Decision making based on clinical/literature data. ● Problem solving aiming at improving interventions efficacy. ● Monitoring interventions efficacy through proper indices and revision of milestones and objectives when necessary. ● Respect culture, equality and diversity in practice. ● Retrieve, analyze and synthesise data and information, with the use of necessary technologies. ● Work autonomously. ● Generate new research ideas. ● Advance free, creative and causative thinking.

COURSE CONTENT

<p>This course gives emphasis on the nutritional assessment and diagnosis, intervention and follow up of patients suffering from upper and lower gastrointestinal diseases, liver, pancreas and hepatobiliary disorders, eating disorders, cancer, neuropathies and hypermetabolic states.</p> <p><i>Case studies:</i> development of a complete nutrition care process in cases of gastro-oesophageal reflux disease, gastrectomy, celiac disease, irritable bowel syndrome, Crohn's disease, hepatic cirrhosis, acute pancreatitis, anorexia nervosa, cancer.</p>

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
<ul style="list-style-type: none"> ● Lectures in class

<ul style="list-style-type: none"> ● Discussion on clinical case studies 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point and video projections for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	39
Clinical case Studies	39
Self study of case studies- written documentation	20
Self- study	55
Total workload hours	153
STUDENT ASSESSEMENT	
<p>The course grade is based on a grade from the study of clinical cases (40%) and on a final written exam. The written exam includes issues to be quoted and multiple-choice tests. Students are asked to respond on questions related to topics covered in the lectures (30% of the total grade) and to describe a complete nutrition care plan for a clinical case (30% of the total grade).</p> <p>Prerequisite for passing the course is the successful completion of the clinical case studies conducted during the semester. Furthermore, students should have a pass grade in all the three grades mentioned above.</p> <p>This information can be accessed at the course's website and at the Asynchronous Teleteaching Platform (e-class).</p>	

RECOMMENDED READING

<ul style="list-style-type: none"> ● Kontogianni M, Yannakoulia M, Karatzi KA, Fappa E. Manual of Clinical Nutrition. Kallipos Repository 2015, https://repository.kallipos.gr/bitstream/11419/1940/1/15253_master_document%20Kontogianni-KOY.pdf ● Mahan K.L. & Escott-Stump S. Krause's Clinical Nutrition. Litsas Medical Publications, Athens 2014. ● Zampelas A. Clinical Nutrition and Dietetics, Pashalides Publications, 2007. ● Gibney MJ, Elia M, Ljungqvist O, Dowsett J. Clinical Nutrition. Parisianou Publications, 2010. ● Fischbach F. Manual of laboratory and diagnostic tests, Lippincott-Raven Publishers, 2005. ● Kalfarentzos F. Principles of artificial nutrition. Theory & practice. Parisianou Publications,2005. <p>Indicative scientific journals: American Journal of Clinical Nutrition, Clinical Nutrition, European Journal of Clinical Nutrition, Lancet, New England Journal of Medicine, Circulation, Hepatology, Gastroenterology, Cancer Oncology</p>
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TOXICOLOGY

GENERAL

COURSE CODE	IA3100	SEMESTER	6
TEACHING FACULTY	Maria Skouroliakou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and written reports		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	Basic knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET197/			

LEARNING OUTCOMES

Learning Outcomes
<p>Toxicology, also known as the science of poisons, has a long tradition, although it was not considered an independent discipline until quite recently.</p> <p>The rise of an independent science of toxicology is a twentieth century phenomenon.</p> <p>It appears to follow the growth of the chemical industry and the concomitant production of synthetic chemicals, compounds which led to somewhat different types of health problems than were previously faced with natural toxicants.</p> <p>The toxic effects of a substance on a particular individual depend on both the chemical and the individual. However, the variability in the toxic potential of different compounds greatly exceeds the variability in toxic response from individual to individual.</p> <p>Exposure assessment / indirect environmental measurement.</p> <p>Exposure assessment / analysis of exposed population.</p> <p>The science of toxicology is a biological science and, as such, has to deal with living organisms that are continually changing. Knowledge can contribute to the elimination of adversarial interactions and the beginning of a more enlightened and cooperative era in dealing with toxic chemicals.</p> <p>A greater awareness of these aspects of toxicology is essential today.</p>
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies. ● Autonomous work. ● Project design and management

COURSE CONTENT

<ul style="list-style-type: none"> ● What are Chemical? How Chemicals Cause Harm ● Pharmacology - Toxicology ● Regulation of Toxic Chemical's ● Factors that Influence Toxicity: How Much-How Often ● Significance of Divided Doses ● Factors that Influence Toxicity: Route of Exposure ● Routes of Elimination (Excretion) ● Other Factors That Influence Toxicity ● Acute Toxicity ● Antidotes ● Mutagenesis ● Carcinogenesis ● Reproductive Toxicity

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
<ul style="list-style-type: none">• Lectures in class	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none">• Use of Power Point for lectures presentation• Use of asynchronous e-learning platform for supporting learning procedure• Use of e-mail as means of communication with students	
TEACHING STRUCTURE	
<i>Activity</i>	<i>Workload (hours per semester)</i>
Lectures	26
Self-study of cases – written documentation	29
Self- study	20
Total workload hours	75
STUDENT ASSESSEMENT	
Written Examination (90%), Case study (10%)	

RECOMMENDED READING

<ul style="list-style-type: none">• Toxicology by Koutselini copyright Parisianou S.A.• Basic concept in toxicology by Maria Skouroliahou (e-class)
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FOOD SERVICE MANAGEMENT

GENERAL

COURSE CODE	FE0201	SEMESTER	6
TEACHING FACULTY	George Boskou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Teaching lectures and practical exercises		
WEEKLY TEACHING HOURS	3	ECTS	4
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET164/			

LEARNING OUTCOMES

Learning Outcomes
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
General Abilities
<ul style="list-style-type: none"> ● Decision making ● Project design and management

COURSE CONTENT

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

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies ● Practical exercise 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of multimedia for lectures presentation ● Use of e-learning platform for supporting learning procedure ● Use of specific software 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	13
Practical exercises	26
Preparation of personal work	39
Self- study	22
Total workload hours	100
STUDENT ASSESSEMENT	
<p>Students must attend at least 11 of the 13 practicals. Two absences are only acceptable if they are justified. In any other case they will have to repeat the course in the next academic year.</p> <p>Written examination of the course takes place during the examination periods of the Department. Written examinations include the analysis of special topics, short exercises and multiple choice questions. The maximum grade of the written test is $\alpha = 80/100$. Teamwork is compiled at the end of</p>	

the semester and is delivered as electronic files via e-class. The maximum degree of work is $\beta = 20/100$. Out-of-date work is rated at $12/100$. The final grade is $(\alpha + \beta) / 10$. It is also possible to prepare a dissertation in this particular subject.

RECOMMENDED READING

- Αρβανιτογιάννης Ιωάννης Σ., Κούρτης Λάζαρος, ISO 9000:2000, 1η έκδ./2002, Εκδόσεις Σταμούλη ΑΕ, ISBN: 960-351-436-5
- Cianfrani Charles A., West John E. (Jack), ISO 9001:2015 explained, 4th edition, 20, ASQ Quality Press, ISBN: 978-0-87389-901-7
- Spears Marian C., Gregoire Mary B., Foodservice Organizations: A Managerial and Systems Approach, 5th edition 2004, Pearson pubs., ISBN: 9780130486899
- Luning P.A., Marcelis Willem J., Jongen W.M.F., Food Quality Management: A Techno-Managerial Approach, 2002, Wageningen Academic Publishers, ISBN: 9789074134811

NUTRITION COUNSELLING AND EATING BEHAVIOR

GENERAL

COURSE CODE	IA3400	SEMESTER	6
TEACHING FACULTY	Mary Yannakoulia, Associate Professor		
AUTONOMOUS TEACHING ACTIVITIES	Different teaching types		
WEEKLY TEACHING HOURS	2	ECTS	3
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET175/			

LEARNING OUTCOMES

Learning Outcomes
The objective of the course is to familiarize students with the variety of factors influencing eating habits as well as with the methods and techniques of nutrition counseling and eating behavior change. Students are expected to be in a position to encounter problems and difficulties arising in dietary interventions, in relation to patients' motivation and adherence to dietary guidelines and goals.
General Abilities
<ul style="list-style-type: none"> ● Decision making ● Working autonomously ● Working in teams ● Planning and work management ● Respect to diversity and multiculturality ● Social and professional responsibility, ethics, respect to gender issues ● Critical thinking ● Advance free, creative and causative thinking

COURSE CONTENT

<ul style="list-style-type: none"> ● Introduction: Progress in dietary change behavior ● The role of dietitian as a skilful helper and/or coach ● Factors influencing food choices and preferences, with special emphasis on children/adolescents, overweight/obese people and elderly. ● Theories of dietary behavior change: Stages of change and other theories. ● Theories of intervention for implementing changes in eating behavior: motivational interviewing and cognitive behavioral therapy in dietary practice. ● A model for the stages of dietary intervention. ● A nutrition counseling 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, cystic fibrosis. ● Problem-solving in clinical practice, dealing with non-compliance or non-adherence. ● Maintaining dietary changes.

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Face to face
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Power point presentations in the classroom
- E-class support

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	24
Discussion of case studies, as part of the lectures	2
Self-study of cases	13
Study and analysis of scientific evidence	10
Self- study	26
Total workload hours	75

STUDENT ASSESSEMENT

Written examination including:

- Case studies
- Problem solving in clinical practice
- Response to role plays.

RECOMMENDED READINGΣΥΝΙΣΤΩΜΕΝΗ ΒΙΒΛΙΟΓΡΑΦΙΑ

- Γιαννακούλια Μ. Φάππα Ε. Διατροφική Συμβουλευτική και Συμπεριφορά. Ελληνικά Ακαδημαϊκά Ηλεκτρονικά Συγγράμματα και Βοηθήματα, ΣΕΑΒ, 2015 (www.kallipos.gr).
- Bauer K, Sokolik C. Basic Nutrition Counseling skill development. Belmont: Wadsworth/Thomson Learning, 2002.
- Curry K, Jaffe A. Nutrition Counselling and Communication Skills. Philadelphia, W.B. Saunders Company, 1998.
- Hunt P, Hiisdon M. Changing eating and exercise behaviour: a handbook for professionals. Oxford, Blackwell Science, 1996.
- Rollnic S, Mason P, Butler C. Health Behavior Change: A Guide for Practitioners. Edinburgh, Churchill Livingstone, 1999.
- Emmons KM, Rollnick S. Motivational interviewing in health care settings. Opportunities and limitations. *Am J Prev Med* 2001; 20:68-74.
- Spencer L, Wharton C, Moyle S, Adams T. The transtheoretical model as applied to dietary behaviour and outcomes. *Nutr Res Rev* 2007; 20:46-73.
- Anderson RM, Funnell MM. Compliance and adherence are dysfunctional concepts in diabetes care. *Diabetes Educ* 2000; 26:597-604.
- U.S. Preventive Services Task Force. Behavioral counseling in primary care to promote a healthy diet: recommendations and rationale. *Am J Prev Med* 2003; 24:93-100.

MOLECULAR BIOLOGY AND GENETICS

GENERAL

COURSE CODE	IA601	SEMESTER	6
TEACHING FACULTY	Georgios Dedoussis, Professor George Papanikolaou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	4	ECTS	5
COURSE TYPE	Compulsory	Basic knowledge	
PREREQUISITES		-	
TEACHING AND EXAMS LANGUAGE		Greek	
AVAILABILITY TO ERASMUS STUDENTS		In English	
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET208/			

LEARNING OUTCOMES

Learning Outcomes
<p>The aim of the course is the study of human genetic diversity, inheritance of traits and the understanding of the role of molecular genetics in revealing the aetiology and genetic basis of monogenic, polygenic and multi-factorial diseases such as obesity, inborn errors of metabolism etc. The effect of environmental factors such as nutrition, smoking and alcohol intake in genetic predisposition is also examined. Laboratory exercises focus on assisting the students to familiarize with the principles of modern techniques in molecular biology and bioinformatics.</p> <p>On successful completion of the module the student will be able to:</p> <ul style="list-style-type: none"> - Understand the principles of inheritance in Mendelian diseases - Understand allele frequencies and inheritance at the level of the population as well as the the basic evolutionary factors that modify allele frequencies - Interpret genetic information with the use of contemporary methods - Understand the genetic aetiology of frequent monogenic and polygenic disorders and the modifying effects of environmental factors - Understand the genetic diversity of human species - Familiarize with the ethical dilemmas that arise in modern genetics and biotechnology
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Autonomous work ● Team work ● Work in a multidisciplinary environment ● Respect diversity and multiculturalism ● Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

<ul style="list-style-type: none"> ● Genetics in Medicine ● Structure and function of genes and chromosomes ● Regulation of gene expression ● Tools human of molecular genetics ● Mendelian inheritance and patterns of monogenic inheritance ● Population Genetics and multi factorial inheritance ● Molecular genetics of metabolic diseases ● Genetics of dyslipidemias ● Genetic basis of Prader-Willi (PWL) and Angelman (AS) syndromes ● Chromosomal diseases and sex chromosome associated diseases
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- Human genome project
- Individualized genetic medicine
- Pharmacogenetics and pharmacogenomics
- Therapy of genetic diseases
- Bioethics

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

Face to face

- Lectures in class
- Laboratory exercises

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students
- Use of bioinformatics software

TEACHING STRUCTURE

<i>Activity</i>	<i>Workload (hours per semester)</i>
Lectures	26
Laboratory exercises	26
Written Laboratory exercises	26
Educational visits/ preparation of essays-presentations	22
Self-study – study of written documentation	21
Total workload hours	121

STUDENT ASSESSEMENT

Written exams in theory (70% weight) with short answers and multiple choice questions and laboratory (30% weight) with written exams and laboratory exercises.

RECOMMENDED READING

- Thompson & Thompson. Medical Genetics, Edition Paschalidis.
- Peter Russell. I Genetics A Mendelian approach, Academic Editions I. Basdra & Co.
- W. S. Klug, M. R. Cummings, C. A. Spencer and M. A. Palladino Concepts of genetics, (11th Edition, 2014), Academic Editions I. Basdra & Co, 2015

NUTRITIONAL EDUCATION

GENERAL

COURSE CODE	IA1800	SEMESTER	6
NAME OF LECTURER	Yannis Manios, Professor		
COURSE ORGANISATION	Lectures and tutorial lessons		
WEEKLY HOURS	3	ECTS	4
TYPE OF COURSE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Course Website (URL)			
http://eclass.hua.gr/courses/DIET116/			

LEARNING OUTCOMES

Learning Outcomes
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 practice.
General Competences
<ul style="list-style-type: none"> ● Retrieve, analyse and synthesise data and information, with the use of necessary technologies ● Decision making ● Team work ● Generate new research ideas ● Design and manage intervention programmes ● Appreciate diversity and multiculturalism ● Demonstrate social, professional and ethical commitment and sensitivity to gender issues ● Be critical and self-critical ● Advance free, creative and causative thinking

COURSE CONTENT

<p>i. 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</p> <p>ii. Health behavioural change models and their application in nutrition interventions:</p> <ul style="list-style-type: none"> - Social Cognitive Theory - Health Belief Model - Theory of Planned Behaviour - Transtheoretical Model and Stages of Change - Motivational Interviewing - PRECEDE- PROCEED model - Intervention Mapping <p>iii. Putting theory into practice: designing a nutrition intervention programme</p> <p>iv. Establishing a relationship between dietician and patient – Dieticians’ traits promoting patient’s behavioural changes - Counselling obese/ diabetic patients-Body Image</p> <p>v. Intervention programmes aiming to promote healthy lifestyles, prevent or treat obesity and other obesity-related health problems.</p>

TEACHING and LEARNING METHODS - ASSESSMENT

MODE OF DELIVERY	
Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	
<ul style="list-style-type: none">• Support of the learning process through the e-class platform• Literature review in PubMed• Presentation of group assignment in Power Point	
COURSE ORGANISATION	
<i>Activity</i>	<i>Workload (hours)</i>
Lectures	14
Laboratory work	28
Individual study	26
Literature review and group assignment	32
Total	100
STUDENTS ASSESSMENT	
Written exam of the theory (50% of the total grade) which includes: <ul style="list-style-type: none">• Multiple choice questions• Short answer questions One group assignment (50% of the total grade).	

RECOMMENDED BIBLIOGRAPHY

- | |
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| <ul style="list-style-type: none">• 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. |
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RESEARCH METHODS IN NUTRITION

GENERAL

COURSE CODE	ΓΕ3000	SEMESTER	6
TEACHING FACULTY	Demosthenes Panagiotakos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures, laboratories		
WEEKLY TEACHING HOURS	3	ECTS	4
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/modules/auth/opencourses.php?fc=8			

LEARNING OUTCOMES

Learning Outcomes
The purpose of “Research Methods” is to familiarize students with the basic principles of the design for epidemiological studies and clinical trials, as well as the basic principles of making decisions in research. The fruitful combination of theory and practical training are the main purposes of this course.
General Abilities
<ul style="list-style-type: none"> ● Search, analysis and synthesis of data and information with the use of appropriate technologies ● Independent work ● Working in a multidisciplinary environment ● Decision-making ● Production of new research ideas ● Promotion of free, creative and inductive thinking

COURSE CONTENT

<ul style="list-style-type: none"> ● Introduction to Research Methods in Health Science. ● Institutional and ethical dimensions when performing research. ● Principles of data analysis, variables, design and use of questionnaires, research hypotheses. ● Epidemiological research: Prevalence and case-control studies. ● Rates and Ratios, Hazard ratio Odds ratio. ● Epidemiological research: Cohort studies. ● Clinical Trials; Design and Analysis. Dietary questionnaires Dietary patterns and dietary indexes. ● Survey research, meta-analysis. ● Data bases in Health Science (PubMed, Scopus, SCI). ● Evaluation of research (impact factor, reports). ● Publications: Process and Ethics for the author, the reviewers and the reader. From research to clinical practice.
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Face to face
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> ● Support of the learning process through the electronic e-class platform ● Search for information in international databases and literature related to the Health Science field

- Design for presentations of research papers with the use of Information and Communication Technologies

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	39
Discussion of case studies	11
Self-study of cases – written documentation	50
Self- study	20
Total workload hours	120

STUDENT ASSESSEMENT

Final exam in Greek (100%) which includes:

- Open questions
- Interpretation of statistical results
- Reinforcement of critical thinking

RECOMMENDED READINGΣΥΝΙΣΤΩΜΕΝΗ ΒΙΒΛΙΟΓΡΑΦΙΑ

- 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

HEALTH ECONOMICS

GENERAL

COURSE CODE	OK0100	SEMESTER	7
TEACHING FACULTY	Eleni Pastrapa, Teaching Assistant Staff of the Department of Home Economics and Ecology		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Compulsory	Basic knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
https://eclass.hua.gr/courses/DIET148/			

LEARNING OUTCOMES

Learning Outcomes
The course aims are: <ul style="list-style-type: none"> ● knowledge of basic concepts of economy in healths' sector, ● conception of medical staff economics behaviour, ● investigation economics effectiveness of health systems.
General Abilities
<ul style="list-style-type: none"> ● Work in a multidisciplinary environment ● Autonomous work ● Decision making

COURSE CONTENT

<ul style="list-style-type: none"> ● Health systems ● Health policy ● Health as public and private good ● Consumer theory and demand of health services ● Suppliers – induces demand ● Health services and supply theory ● Hospital as economic unit-elastic ● Hospital behaviour ● Medical staff and labour market
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face <ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26
Self- study	24
Total workload hours	50

STUDENT ASSESSEMENT

Final written examination (100 %)

RECOMMENDED READING

- Υφαντόπουλος, Γ. (2006), Τα οικονομικά της υγείας. Θεωρία και πολιτική, Τυπωθήτω, Γ. Δαρδανός, Αθήνα.
- Χλέτσος, Μ. (2011), Οικονομικά της Υγείας, Πατάκη, Αθήνα.

DISORDERS OF ENERGY REGULATION AND METABOLISM

GENERAL

COURSE CODE	IA3800	SEMESTER	7
TEACHING FACULTY	Labros Sidossis, Professor Katerina Skenderi, Teaching Assistant Staff		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and Tutorials		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Optional	Scientific field	
PREREQUISITES		-	
TEACHING AND EXAMS LANGUAGE		Greek	
AVAILABILITY TO ERASMUS STUDENTS		in English	
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET198/			

LEARNING OUTCOMES

Learning Outcomes
The pathophysiology and metabolic regulation of common metabolic disorders like obesity, atherosclerosis, metabolic syndrome, diabetes and osteoporosis. The objectives of the course will be: <ul style="list-style-type: none"> • 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.
General Abilities
<ul style="list-style-type: none"> • Producing new research ideas • Data and information searching, analysis and synthesis, with the support of proper technologies • Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

<ul style="list-style-type: none"> • The definition of Obesity • Effects of macronutrients on cardiovascular diseases • Effects of exercise and nutrition on oxidative stress • Drugs that modify appetite • The role of brown adipose tissue in body weight regulation • Obesity and assessment of energy balance • The role of vitamin D in body weight regulation • Effects of exercise and nutrition on rheumatic diseases • Behavior modification and body weight regulation • The role of Calcium and Vitamin D in musculoskeletal system • Metabolic disorders in obesity • The role of myokines in metabolism

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Face to face <ul style="list-style-type: none"> • Lectures in class • Tutorials
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	20
Tutorials	6
Self- study	26
Total workload hours	52

STUDENT ASSESSEMENT

Written Examination (100%)

RECOMMENDED READINGΣΥΝΙΣΤΩΜΕΝΗ ΒΙΒΛΙΟΓΡΑΦΙΑ

- “Cardiometabolic risk” by A. Melidonis
- Selected original papers

CLINICAL PEDIATRIC DIETETICS

GENERAL

COURSE CODE	IA3700	SEMESTER	7
TEACHING FACULTY	Mary Yannakoulia, Associate Professor		
AUTONOMOUS TEACHING ACTIVITIES	Different teaching types		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Optional	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET161/			

LEARNING OUTCOMES

Learning Outcomes
<p>The objective of the course is to introduce students to the basic concepts of the nutrition care process for young patients (infants, toddlers, children and adolescents).</p> <p>Students 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.</p>
General Abilities
<ul style="list-style-type: none"> ● Data retrieving, analysis and synthesis ● Decision making ● Working autonomously ● Working in team ● Planning and work management ● Respect to diversity and multiculturality ● Social and professional responsibility, ethics, respect to gender issues ● Critical thinking ● Advance free, creative and causative thinking

COURSE CONTENT

<ul style="list-style-type: none"> ● Assessment of the nutritional status of children and adolescents in the clinical setting ● Eating behavior of children and adolescents ● Energy balance and weight management ● Malnutrition in hospitalized on non-hospitalized children ● Weaning and introduction of solid foods ● 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, marple 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 ● Dietary intervention for children with autism spectrum disorders
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

Face to face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> • Power point presentations in the classroom • E-class support. 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	22
Presentations	4
Study and analysis of scientific evidence	4
Autonomous study	20
Total workload hours	50
STUDENT ASSESSEMENT	
I. Presentations (50%) II. Written exams (50%) including: <ul style="list-style-type: none"> - Multiple choice questions - Questions requiring brief response 	

RECOMMENDED READING

- Sonnevile C, Duggan C & Walker WA. Εγχειρίδιο Παιδικής Διατροφής (μετάφραση). Αθήνα: Εκδόσεις Παρισιάνου, 2015.
- Shaw V. Clinical pediatric dietetics (4th Edition). Oxford: Wiley-Blackwell, 2014
- Walker & Watkins, Nutrition in Pediatrics: Basic Science and Clinical Applications, 3rd edition. Hamilton, Ont: BC Decker, 2008.
- Parkman Williams C. Pediatric manual of clinical dietetics. American Dietetics Association, 2003.
- Gidding SS, Dennison BA, Birch LL, Daniels SR, Gillman MW, Lichtenstein AH, Rattay KT, Steinberger J, Stettler N, Van Horn L Dietary recommendations for children and adolescents: a guide for practitioners. *Pediatrics* 2006; 117:544-559
- Grossman DC, Bibbins-Domingo K, Curry SJ, Barry MJ, Davidson KW, Doubeni CA, Epling JW, Jr., Kemper AR, Krist AH, Kurth AE, Landefeld CS, Mangione CM, Phipps MG, Silverstein M, Simon MA, Tseng CW. Screening for Obesity in Children and Adolescents: US Preventive Services Task Force Recommendation Statement. *JAMA* 2007; 317:2417-2426
- Εθνικός Διατροφικός Οδηγός για Βρέφη, Παιδιά και Εφήβους και Εθνικός Εθνικός Διατροφικός Οδηγός για Βρέφη, Παιδιά και Εφήβους – Κείμενο Επιστημονικής Τεκμηρίωσης, 2014 (<http://www.diatrofikoiodigoi.gr/?Page=entypo-yliko-%20paidia>).

FOOD BIOCHEMISTRY

GENERAL

COURSE CODE	FE3100	SEMESTER	7
TEACHING FACULTY	Nick Kalogeropoulos, Professor Antonia Chiou, Associate Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Optional	Scientific field	
PREREQUISITES	Basic principles of food chemistry, physical chemistry of foods, nutrition		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET157/			

LEARNING OUTCOMES

Learning Outcomes
On successful completion of the module the student will be able to: <ul style="list-style-type: none"> ● 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 biochemical changes in food technology
General Abilities
<ul style="list-style-type: none"> ● Retrieve, analyze and synthesize data and information, with the use of necessary technologies ● Autonomous work ● Work in an interdisciplinary environment

COURSE CONTENT

Biochemical properties of macro- and micro- nutrients and their effects on food quality and nutritional value. 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, fish and seafood, cereals and bakery products, wine and alcoholic drinks. The enzymes in food analysis. Food allergens.
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face <ul style="list-style-type: none"> ● Lectures in class 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26
Autonomous study	24
Total workload hours	50

STUDENT ASSESSEMENT

Written examination (100%) including essay-type questions.
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RECOMMENDED READING

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|---|
| <ul style="list-style-type: none">• 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, HuiY. H. Ed, ISBN: 978-0-8138-0378-4, 2006, Wiley-Blackwell |
|---|

FOOD LEGISLATION

GENERAL

COURSE CODE	FE0201	SEMESTER	7
TEACHING FACULTY	George Boskou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Teaching lectures and practical exercises		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Optional	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET160/			

LEARNING OUTCOMES

Learning Outcomes
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.
General Abilities
<ul style="list-style-type: none"> ● Decision making ● Working within an international environment ● Legislation resources

COURSE CONTENT

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

TEACHING METHODS	
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of multimedia for lectures presentation ● Use of e-learning platform for supporting learning procedure ● Use of internet databases 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	26
Preparation of personal work	13
Self- study	13
Total workload hours	52
STUDENT ASSESSEMENT	
Written examination of the course takes place during the examination periods of the Department. Written examinations include the analysis of special topics, short exercises and multiple choice questions. The maximum grade of the written test is $\alpha = 80/100$. Teamwork is compiled at the end of	

the semester and is delivered as electronic files via e-class. The maximum degree of work is $\beta = 20/100$. Out-of-date work is rated at $12/100$. The final grade is $(\alpha + \beta) / 10$. It is also possible to prepare a dissertation in this particular subject.

RECOMMENDED READING

- Hellenic and European legislative documents
- FAO/WHO Codex Alimentarius

DATA ANALYSIS

GENERAL

COURSE CODE	FE3300	SEMESTER	7
TEACHING FACULTY	Demosthenes Panagiotakos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures, Lab training/Exercised and Tutorial lessons		
WEEKLY TEACHING HOURS	4	ECTS	2
COURSE TYPE	Optional	Scientific field, Skills development	
PREREQUISITES			
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://eclass.hua.gr/modules/auth/opencourses.php?fc=8			

LEARNING OUTCOMES

Learning Outcomes
Research development in the field of Nutrition and Dietetics has led to the use of complicated data analysis techniques. Teaching of statistical methods used in medical and biological research is the first purpose of the above course. Moreover, the familiarity of students with the application of statistical methods, the use of appropriate statistical software in order to organize and analyze information as well as the fruitful combination of theory and practical training are also purposes of the course.
General Abilities
<ul style="list-style-type: none"> ● Search, analysis and synthesis of data and information with the use of appropriate technologies ● Independent work ● Working in a multidisciplinary environment ● Production of new research ideas ● Promotion of free, creative and inductive thinking

COURSE CONTENT

<ol style="list-style-type: none"> 1. Multivariate data analysis. <ol style="list-style-type: none"> 1.1. Principal Component Analysis 1.2. Factor Analysis 1.3. Cluster Analysis 1.4. Discriminant Analysis <ol style="list-style-type: none"> 1.4.1. Application in epidemiological and clinical studies, as well as in biological and genetic data bases. 2. Non-parametric statistics 3. Analysis of longitudinal data and Time Series. <ol style="list-style-type: none"> 3.1. Repeated measures analysis of variance (rANOVA). 3.2. Time Series Analysis. <ol style="list-style-type: none"> 3.2.1. Applications in risk assessment models. 4. Financial techniques in Health Science. 5. Non-linear designs. <ol style="list-style-type: none"> 5.1. Applications in order to estimate human growth curves and somatometrics. 6. Writing the results of a research paper.
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Face to face <ul style="list-style-type: none"> ● Lectures in class

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation
- Exercises and applications are solved through a statistical software
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	20
Lab exercises	20
Self-study	5
Paper writing	5
Total workload hours	50

STUDENT ASSESSEMENT

Final written exam (100%) in Greek which includes:

- Problem solving
- Open questions

RECOMMENDED READING

- Πολυδιάστατη Ανάλυση Δεδομένων, Θ. Μπεχράκης, Εκδ. Λιβάνη, 1999
- Πολυμεταβλητή Ανάλυση Δεδομένων, Δ. Καρλής, 2007
- Selected scientific articles

HUMAN RESOURCE MANAGEMENT

GENERAL

COURSE CODE	FE3400	SEMESTER	8
TEACHING FACULTY	Sabbas Makridis, Teaching Fellow		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Compulsory	General knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
https://eclass.hua.gr/courses/DIET255/			

LEARNING OUTCOMES

Learning Outcomes
The aim of the course is
<ul style="list-style-type: none"> ● to contribute, in a creative way, to the better understanding of the organisational effectiveness and to explore the effects of the management process on human behaviour ● to explore the relationship between organizational performance and human resource management.
General Abilities
<ul style="list-style-type: none"> ● Decision making ● Team work ● Respect diversity and multiculturalism ● Demonstrate social, professional and ethnical responsibility and sensitivity regarding gender issues

COURSE CONTENT

Approaches to organisation and human resource management. Human Resource planning. Staffing the organization: job description, personnel recruitment, methods of personnel's selection, training and development of human resource, incentives and benefits, evaluation of job performance, job satisfaction, motivation, conflict management at workplace, group dynamics, human resource information system.
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
<ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation ● Use of asynchronous e-learning platform for supporting learning procedure ● Use of e-mail as means of communication with students 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	20
Discussion of case studies	10
Self-study of cases – written documentation	5
Self- study	15
Total workload hours	50
STUDENT ASSESSEMENT	

The course grade is based on a final written exam or an exempted written task.

RECOMMENDED READING

- Desler, G. (2015). Human Resource Management, Kritiki (ed.), Athens
- DeCenzo D. A., Robbins S. P., Verhulst s. I. (2015). Fundamentals of Human Resource Management, Utopia (ed.), Athens

MARKETING

GENERAL

COURSE CODE	OK0900	SEMESTER	8
TEACHING FACULTY	George Malindretos, Assistant Professor of the Department of Home Economics and Ecology		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Optional	General knowledge	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET182/			

LEARNING OUTCOMES

Learning Outcomes
After the completion of the lectures the students will be able to : <ul style="list-style-type: none"> ● Understand Marketing principles and issues, within the context of the contemporary integrated Marketing Management ● Analyze the market place, towards the design of marketing strategy and marketing mix ● Acknowledge the importance of competitive advantage and the consequent requirement for differentiation and "positioning" in the marketplace ● Understand the meaning of "Value" and "Value for money" and how these lead to cost-effective operations to attain profit ● To know the modern communication practices, direct and indirect.
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Autonomous work ● Team work ● Decision making ● Work in an international environment

COURSE CONTENT

<ul style="list-style-type: none"> ● Marketing principles and basic issues ● Integrated marketing, internal and external customers ● Market research techniques, SWOT analysis and target groups ● Marketing Mix ● Strategy Marketing, Differentiation and "Positioning" ● Services Marketing ● Customer Service ● Integrated communication practices, internet marketing ● Design and Budget of communication ● Channels of distribution and Supply Chain Management

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Face to face <ul style="list-style-type: none"> ● Lectures in class ● Discussion of case studies
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	20
Discussion of case studies	14
Self- study	16
Total workload hours	50

STUDENT ASSESSEMENT

Students' assessment is based on written examination (100%) that includes :

- questions based on theory
- critical analysis of case study

RECOMMENDED READING

- Scott M. Smith, Gerald S. Albaum, Fundamentals of marketing research, SAGE, 2005
- Wasik, John F. BK, Green Marketing and Management: A Global Perspective, Wiley, 1996
- Gary Armstrong, Philip Kotler, Marketing: An Introduction, Prentice Hall, 2003

GENE-NUTRIENT INTERACTIONS

GENERAL

COURSE CODE	IA4100	SEMESTER	8
TEACHING FACULTY	Georgios Dedoussis, Professor George Papanikolaou, Assistant Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Optional	Scientific field	
PREREQUISITES	No		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/X/			

LEARNING OUTCOMES

Learning Outcomes
<p>The aim of the course is to provide knowledge about the role of natural products on gene expression in both in-vitro-cell systems and in-vivo experimental conditions. Trainees come into contact with new data derived from the human genome project and relate to the identification of new regulatory molecules, non-coding sequences, and the elucidation of macromolecule and micromolecule interactions. Also they understand the pleiotropic biological effects of food ingredients, evaluate the minimum concentrations that trigger either cellular or whole organism responses.</p> <p>Upon successful completion of the course the student will be able to:</p> <ul style="list-style-type: none"> ● Know the principles of organization and function of nucleic acids. ● Know the basic differences in the regulation of prokaryotic and eukaryotic organisms. ● Know the basic mechanisms of regulation of gene expression in eukaryotes. ● Understand the impact of gene regulation by nutritional factors.
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Autonomous work ● Team work ● Work in a multidisciplinary environment ● Respect diversity and multiculturalism ● Promotion of unrestrained, creative and deductive thoughts

COURSE CONTENT

<p>Introduction to nutrigenomics.</p> <ul style="list-style-type: none"> ● From the cells to the chromosomes. From DNA to proteins. ● Transcription factors. ● Structure of chromatin, post-transcriptional regulation mechanisms ● Trace elements and gene expression. The dietetic Zinc. ● Formulation of gene expression from dietary iron. ● Selenium, diet and gene expression. ● Vitamin D and gene expression ● Nutritional and hormonal control of the fatty acid synthesis. ● Polyphenols. Lycopene. ● Effect of EGb 761 extract of Ginkgo Biloba plant on gene expression in the brain. ● Cancer, genes and nutritional regulators ● Research tools to investigate the molecular dimension of nutrition.
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face	
<ul style="list-style-type: none">• Lectures in class	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none">• Use of Power Point for lectures presentation• Use of asynchronous e-learning platform for supporting learning procedure• Use of e-mail as means of communication with students• Use of bioinformatics software	
TEACHING STRUCTURE	
<i>Activity</i>	<i>Workload (hours per semester)</i>
Lectures	26
Written exercises	14
Bibliography search and analysis	20
Total workload hours	60
STUDENT ASSESSEMENT	
Written exams in theory (50% weight) with short answers and multiple choice questions and an oral presentation (50% weight).	

RECOMMENDED READING

- Biology – Vol I, Edition 1st, Campell N., Reece J. ITE – University Editions of Crete, Hrakleio, 2010 - ISBN: 978-960-524-306-7.
- The Cell: A Molecular Approach, Geoffrey M. Cooper & Robert E. Hausman, Academic Editions I. Basdra & Co, 2013 - ISBN: 978-960-99895-8-9.

WORLD NUTRITION

GENERAL

COURSE CODE	IA4200	SEMESTER	8
TEACHING FACULTY	Antonia Matalas, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures, meetings		
WEEKLY TEACHING HOURS	2	ECTS	4
COURSE TYPE	Optional	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://eclass.hua.gr/DIET4200/			

LEARNING OUTCOMES

Learning Outcomes
<p>On successful completion of the module the student will be able to:</p> <ul style="list-style-type: none"> • describe the major dietary changes that have taken place in food production and food consumption during the 29th century. • identify the nutritional challenges in the developed and the less developed world. • use knowledge and understanding in studying the impact of the various food systems on the diet and the nutritional status of populations. • appreciate the relationship between food production and public health • understand the relationship between food consumption patterns and the environmental sustainability.
General Abilities
<ul style="list-style-type: none"> • Team work • Promotion of unrestrained, creative and deductive thoughts • Respect the environment • Be critical

COURSE CONTENT

<p>Food availability trends from a world perspective. Sources of data on regional food consumption patterns. Current nutritional challenges in the international level. The obesity epidemic. Social, economic and environmental determinants of famine and malnutrition. The importance of action programmes for development and protection of the nutritional status of vulnerable populations. The demand for sustainable diets and food security in the modern world.</p>

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS	
Face to face:	
<ul style="list-style-type: none"> • Lectures in class, Mentoring of projects 	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES	
<ul style="list-style-type: none"> • Power point presentation • Support of the learning process through the electronic e-class platform • Data and information searching in international databases 	
TEACHING STRUCTURE	
Activity	Workload (hours per semester)
Lectures	12
Case studies /Project	12

Autonomous study	26
Total workload hours	50
STUDENT ASSESSEMENT	
The evaluation is based on a written essay and its presentation , applying three criteria: a) adequate documentation of the topic, b) originality of the research involved, and c) organization of the essay and class presentation	

RECOMMENDED READING

- Foster E, Green M, Bleda P. and Dewik A. *Environmental impacts of food production and consumption: final report to the Department for Environment Food and Rural Affairs*, University of Manchester, Defra, London, 2006.
- Ματάλα Α. και Χουλιάρας Α. (επιμ.), *Η Διατροφή τον 21ο Αιώνα. Γεωγραφίες της Αφθονίας και της Στέρησης*, Εκδόσεις «Παπαζήσης», Αθήνα 2005.

FOOD BIOTECHNOLOGY

GENERAL

COURSE CODE	IA3900	SEMESTER	8
TEACHING FACULTY	Nick Kalogeropoulos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Optional	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET191/			

LEARNING OUTCOMES

Learning Outcomes
<p>On successful completion of the module the student will be able to:</p> <ul style="list-style-type: none"> • Understand the significant contribution of biotechnology applications to modern nutrition. • Have advanced knowledge of the basic principles of bioreactors and calculations in bioreactor systems. • Compare and evaluate the role of microorganisms in industrial fermentations (bacteria, fungi, yeasts). • Understand the "useful" fermentations (alcoholic fermentation, lactic fermentation, propionic fermentation), technology of production of microbial protein, oils, polysaccharides etc. • Become familiar with the use of biotechnology in waste treatment (anaerobic, aerobic, composting). • Identify and understand the achievements of modern biotechnology (recombinant DNA, cloning, genetic engineering).
General Abilities
<ul style="list-style-type: none"> • Retrieve, analyze and synthesize data and information, with the use of necessary technologies • Promotion of unrestrained, creative and deductive thoughts • Respect natural environment

COURSE CONTENT

<ul style="list-style-type: none"> • 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 nutritional value. • Alcoholic fermentation, wine, beer • Lactic fermentation, propionic fermentation, dairy products • Technology and applications of immobilized enzymes • Biotechnology in the processing of foods, food components and food additives

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
<p>Face to face</p> <ul style="list-style-type: none"> • Lectures in class
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> • Use of Power Point for lectures presentation • Use of asynchronous e-learning platform for supporting learning procedure

- Use of e-mail as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	26
Autonomous study	24
Total workload hours	50

STUDENT ASSESSEMENT

- Written examination (100%) including:
- Essay-type questions
 - Conceptual and practice problems

RECOMMENDED READING

- A. Batrinou (2010), "Modern Food Biotechnology" Paschalidis Editions, Athens (in Greek).
- M. Liakopoulou-Kyriakidou (2004), "Biotechnology with Emphasis in Biochemical Engineering", Zitis Editions, Thessaloniki (in Greek)
- T.Roukas, (2009), "Food Biotechnology", Yahoudi Editions, Thessaloniki (in Greek)

NUTRITION FOR ELITE ATHLETES

GENERAL

COURSE CODE	IA4000	SEMESTER	8
TEACHING FACULTY	Arnaoutis Giannis, Teaching Fellow		
AUTONOMOUS TEACHING ACTIVITIES	Lectures		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Optional	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET100/index.php			

LEARNING OUTCOMES

Learning Outcomes
<p>The objective of the course is to present the specific nutritional needs of high level athletes during training and race season. Furthermore, to highlight the importance of nutritional support towards the amelioration of athletic performance. During the semester the effect of potential nutrition ergogenic substances used by athletes on performance will be discussed. Finally, the history of doping, anti-doping control procedures and regulations will be analyzed.</p> <p>On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> ● Understand the basic principles of sports nutrition for elite athletes ● Get informed about the role of nutritional support in maximizing athletic performance ● Get informed about the mechanism of action, the suggested dosage and the efficacy of the most commonly used sports supplements among elite athletes ● Get informed for the legal aspects of anti-doping control along with the health consequences provoked by the consumption of illegal supplements
General Abilities
<ul style="list-style-type: none"> ● Retrieve, analyze and synthesize data and information, with the use of necessary technologies. ● Work autonomously. ● Generate new research ideas. ● Advance free, creative and causative thinking.

COURSE CONTENT

<ul style="list-style-type: none"> ● Energy needs of elite athletes during a training season ● The importance of body composition for the athlete. Techniques. ● Carbohydrate loading and performance ● The role of protein supplementation for the athlete ● The importance of fluid homeostasis and the effect of dehydration in performance ● Caffeine and sodium bicarbonate as ergogenic supplements ● Creatine and performance ● Beta-alanine and Nitric oxide supplements and their role in performance ● The history of doping and anti-doping ● Anabolic androgen steroids and their effect in health ● The Athletic Triad and Relative Energy Deficiency Syndrome
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Lectures in class
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point and video projections for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	26
Consultation	8
Study and analysis of scientific papers and book chapters	16
Total workload hours	50

STUDENT ASSESSEMENT

The course grade is based on

Final examination: 100%

At the end of the semester the students are examined based on the lectures, presentations and recent peer-reviewed articles

This information can be accessed at the course's website and at the Asynchronous Teleteaching Platform (e-class).

RECOMMENDED READING

- Maughan et al. The IOC consensus statement: dietary supplements and high-performance athlete. BJSM. 2018.
- Mountjoy et al. IOC consensus statement on Relative Energy Deficiency in Sports. International Journal of Sport Nutrition and Exercise Metabolism. 2018.
- Practical Issues in Evidence-Based Use of Performance Supplements: Supplement Interactions, Repeated Use and Individual Responses. Burke LM. Sports Med. 2017.
- Position of the American Dietetic Association, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and Athletic Performance, J Am Diet Assoc 2016.
- Jose Antonio et al. Essentials of Sports Nutrition and Supplements, Springer-Verlag New York (5th edition). 2012.

NUTRITION AND DISEASE PREVENTION

GENERAL

COURSE CODE	IA 4300	SEMESTER	8
TEACHING FACULTY	Evangelos A Polychronopoulos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and Practical		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Optional	Scientific field, Skills development	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	In English		
Webpage address (URL)			
http://eclass.hua.gr/diet168/			

LEARNING OUTCOMES

Learning Outcomes
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), tertiary (palliative) care, quaternary.
The Student must be able to enrich the knowledge and skills concerning : the role of Nutrition and disease prevention.
General Abilities
<ul style="list-style-type: none"> ● Retrieve and compare, update Nutrition and Disease Prevention information. ● Work autonomously and interdisciplinary with other scientific groups (Pregraduate training). ● Differentiate the Nutrition and Disease Prevention procedures. ● Acquire distinctive competence and comprehend the importance of Disease Prevention and Nutritional Therapy approach in EU Member States, developing and under developed countries .

COURSE CONTENT

<ul style="list-style-type: none"> ● 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), quaternary(overdiagnostics and polupharmacy reduction) ● 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. Endocrine Disruptors ● 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

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
Face to face
<ul style="list-style-type: none"> ● Lectures in class ● Discussion and presentations concerning Nutrition and Disease Prevention Studies
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> ● Use of Power Point for lectures presentation, ● Use of asynchronous e-learning platform for supporting learning procedure with update Nutritional Epidemiology issues

- Use of e-mail and eclass as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	30
Discussion of case studies	10
Self-study of cases – written documentation	10
Total workload hours	50

STUDENT ASSESSEMENT

Written Exam(100%)

RECOMMENDED READING

- Public Health & Preventive Medicine. Maxcy-Rosenau-Last Ed R B Wallace . Mc Graw Hill 2007
- Simplified Diet Manual .Iowa Dietetic Association Ed Andrea Maher 2009, Greek Edition Ed Parisianos 2009

METABOLIC DISEASE

GENERAL

COURSE CODE	IA 4400	SEMESTER	8
TEACHING FACULTY	Constantine Tsigos, Professor		
AUTONOMOUS TEACHING ACTIVITIES	Lectures and case studies		
WEEKLY TEACHING HOURS	2	ECTS	2
COURSE TYPE	Optional	Scientific field	
PREREQUISITES	-		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	in English		
Webpage address (URL)			
http://eclass.hua.gr/courses/DIET225/			

LEARNING OUTCOMES

Learning Outcomes
<p>Pathophysiology and clinical management of metabolic diseases will be discussed, including obesity, diabetes mellitus, metabolic syndrome and fatty liver disease, together with their cardiometabolic complications (insulin resistance, hyperlipidemia, hypertension, atherosclerosis, coronary artery disease, etc), as well as metabolic bone disease (osteoporosis, vitamin D abnormalities, etc.).</p> <p>Special focus will be on:</p> <ul style="list-style-type: none"> ● Understanding of the complex pathophysiology of the metabolic disorders and their complications and how this relates to the required diagnostic evaluation and the therapeutic choices ● Acquiring the ability to assess and evaluate important and clinically relevant information from the patient's history ● Becoming familiar with the essential/recommended diagnostic work-up and evaluation of the results ● Improving the skills of working within a multi-disciplinary setting which will combine nutritional and lifestyle interventions with pharmacotherapy and bariatric/metabolic surgery where needed for the prevention and long-term management of these disorders. ● Pharmacological options and criteria for selection ● Bariatric/Metabolic surgery (criteria for patient selection, pre- and post-operative assessment and follow-up requirements, techniques) ● Understanding the need of adjusting the required evaluation as well as the lifestyle and other therapeutic interventions, according to patient age (from childhood to elderly years).
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis ● Adapt in new situations ● Independent work ● Work in an international environment ● Work in a multidisciplinary environment ● Producing new research ideas ● Promotion of unrestrained, creative and deductive thinking

COURSE CONTENT

<ul style="list-style-type: none"> ● Pathophysiology and mechanisms of disease ● Important elements of history taking and clinical evaluation of the patient ● Laboratory evaluation of disease burden and therapy outcomes ● Therapeutical interventions : Pharmacotherapy (for weight loss, diabetes control, lipid-lowering, osteoporosis). Indications, targets, stopping rules Bariatric/Metabolic surgery (selection criteria, pre-operative assessment, post-operative follow-up)
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Encouragement of multidisciplinary collaboration

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

Face to face

- Lectures in class
- Discussion of case studies

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Use of Power Point for lectures presentation
- Use of asynchronous e-learning platform for supporting learning procedure
- Use of e-mail as means of communication with students

TEACHING STRUCTURE

Activity	Workload (hours per semester)
Lectures	26
Discussion of case studies	8
Self-study of cases – written documentation	16
Total workload hours	50

STUDENT ASSESSEMENT

Written exam (100%), which includes:

- Multiple choice questions
- Assay questions

RECOMMENDED READING

- “Heart and Metabolism: Risk Factors” by Cefalu W and Cannon CP
- “Disease and Bone Metabolism” by Chatjidakis D
- Selected international review papers from peer-reviewed international journals will be provided to support the learning objectives of the course

PRACTICAL PLACEMENT I & II

GENERAL

COURSE CODE	ΠΑ2000, -1	SEMESTER	7 & 8
TEACHING FACULTY			
CLINICAL SECTOR	Mary Yannakoulia, Associate Professor Meropi Kontogianni, Assistant Professor		
COMMUNITY SECTOR	Evangelos A Polychronopoulos, Professor Yannis Manios, Professor		
FOOD SERVICE SECTOR	George Boskou, Assistant Professor Andriana Kaliora, Assistant Professor		
TOTAL TEACHING DAYS	120	ECTS	30
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES	1. Nutritional Assessment (3 rd sem.) 2. Food Chemistry (3 rd sem.) 3. Clinical Nutrition I (5 th sem.) 4. Food Service Hygiene (5 th sem.) 5. Nutritional Education (6 th sem.) 6. Clinical Nutrition II (6 th sem.) <i>Plus 30 out of 40 courses allocated up to the 3rd study year (excluding Foreign Languages).</i>		
TEACHING AND EXAMS LANGUAGE	Greek		
AVAILABILITY TO ERASMUS STUDENTS	-		
Webpage address (URL)			
https://eclass.hua.gr/modules/units/?course=LANGUAGES105&id=1097			

LEARNING OUTCOMES

Learning Outcomes
<p>Practical Placement consists of variable educational activities with clear goals and assessment strategy, aiming at gaining working experience and developing skills through experiential learning.</p> <p>Principal aim of the Practical Placement is to qualify students with the skills and the abilities needed to exercise the profession of the dietitian-nutritionist. Students are thus trained in applying theoretical knowledge acquired throughout their studies and in critical thinking, so to ultimately improve the nutritional status and general health of individuals or population groups. Moreover, Practical Placement constitutes a passage from university to labor market, into which students are mainly integrated after graduating, that is why Practical Placement also serves to broaden potential workplaces.</p> <p>Specifically, Practical Placement aims at providing students with:</p> <ul style="list-style-type: none"> ● opportunities to practice theoretical knowledge within a controlled yet real working environment ● new knowledge and experience ● training to enter professional or research sector ● guidance to cope with future demands of a workplace ● a link with labor market and the society where they will be working.
General Abilities
<ul style="list-style-type: none"> ● Autonomous work ● Team work ● Decision making ● Practice communication skills ● Adapt in new situations ● Respect diversity and multiculturalism ● Promotion of unrestrained, creative and deductive thoughts ● Work in a multidisciplinary environment

- Demonstrate social, professional and ethnical responsibility
- Practice critical judgment and self-criticism
- Coping with difficult situations and critical cases

COURSE CONTENT

Practical Placement is conducted in 3 sectors:

- Clinical (72 days), i.e. Dietetic Department of major public Hospitals
- Community/Public Health (24 days), e.g. private dietetic offices, daycare centers, open care centers for elderly, nursing homes, community health centers, fitness clubs
- Food industry (24 days), e.g. food production, service or retailing settings.

Practical Placement is undivided, namely successful completion of practice in all 3 sectors is required for successful course attendance. Students can practice either inside or outside the municipality of Attica.

TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS

Face to face

- presence and active involvement of students in the practical placement settings

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES

- Contact with the supervisors in the practice placement settings (telephone, e-mail)
- Contact with the students (telephone, e-mail)
- Digital archiving

TEACHING STRUCTURE

Activity

Presence in the practical placement setting

Workload (total hours)

750

STUDENT ASSESSEMENT

Health professionals training students at each Practical Placement setting are primarily charged with the daily student supervision and assessment. At an inferior level, every student is allocated an academic supervisor, namely a teaching staff member responsible for acting as a mediator between the Department and the Practical Placement setting, for providing guidance and ensuring unhindered progress of the Practical Placement. Student grade per sector is delivered by the teaching faculty in charge of each sector, after taking into account supervisor's assessments.

Final assessment is calculated as the sum of the grades obtained in each sector multiplied by different coefficient, proportionate to the duration of the Practical Placement in each sector: 50% for clinical sector, 25% for community sector, and 25% for the food industry sector.

DISSERTATION

GENERAL

COURSE CODE	ΠΤ2000	SEMESTER	7 & 8
TEACHING FACULTY	Members of academic staff as supervisors		
TOTAL WORK LOAD HOURS	450	ECTS	18
COURSE TYPE	Compulsory	Scientific field, Skills development	
PREREQUISITES		Successful attendance of all but 4 courses	
TEACHING AND EXAMS LANGUAGE		Greek	
AVAILABILITY TO ERASMUS STUDENTS		In English	

LEARNING OUTCOMES

Learning Outcomes
Aim of the Dissertation is to bring students in touch with scientific research methodology, to provide them with the experience in handling both data and time, as well as to familiarize them with manuscript preparation and presentation of their work in public.
General Abilities
<ul style="list-style-type: none"> ● Data and information searching, analysis and synthesis, with the support of proper technologies ● Producing new research ideas ● Project design and management ● Autonomous work ● Team work ● Decision making ● Promotion of unrestrained, creative and deductive thoughts ● Demonstrate professional and ethical responsibility

COURSE CONTENT

Dissertations can be either part of research projects or literature reviews. Students are required to prepare a written document describing all stages of the work implemented and defend this work in public.
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TEACHING AND LEARNING METHODS – ASSESSMENT

TEACHING METHODS
<ul style="list-style-type: none"> ● Various techniques depending on the nature of the project
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES
<ul style="list-style-type: none"> ● Use of Power Point for public defense ● Literature search through e-databases of scientific journals ● Use of e-mail as means of communication with students
STUDENT ASSESSEMENT
Final assessment is delivered by a three-member committee comprising members of the academic staff of the Department or of other Department of the relevant scientific area, after taking into account the student's work, attitude and punctuality throughout the implementation of the dissertation based on feedback given by the supervisor, as well as the quality of the final text produced and its presentation.

2018

Harokopio University
DEPARTMENT OF NUTRITION and DIETETICS

El. Venizelou 70

17676 Athens

GREECE

☎ +30 210.9549100

www.tmimadiaitologias.hua.gr

