



SCHOOL OF HEALTH SCIENCES

Department of Nutritional Sciences and Dietetics

STUDY GUIDE

DEPARTMENT OF NUTRITIONAL SCIENCES AND DIETETICS

«THESSALONIKI», 2023

EDITING

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1. FOREWORD

Dear students,

This Study Guide of the Department of Nutritional Sciences and Dietetics, School of Health Sciences, International Hellenic University (I.H.U.), provides the necessary information to all interested parties on the structure, organization, operation, aims, and duration of studies offered in the Department.

Since its establishment, the Department has evolved and plays an important educational and research role in the field of Nutrition and Dietetics. Its fundamental objective is to be extroverted and to develop collaborations with other universities and institutions active in the field of Nutrition and Dietetics, both nationally and internationally.

The main concern of the Members of the Department is the quality training of students, with the development of an appropriate background of studies, competencies, and skills that will make our students and future graduates, competitive in a national and international environment. In the context of ensuring academic freedom and with respect to the obligations of all members (students, educational and technical staff, administrators, etc.), regulations have been drawn up to ensure the proper functioning of the Department in accordance with the rules of law and order.

I hope that the Study Guide will take you on a pleasant journey through the world of the Department of Nutritional Sciences and Dietetics of the I.H.U., providing easy answers to your questions.

The President of the Department

Elisabeth Vardaka, Professor

2. THE INTERNATIONAL HELLENIC UNIVERSITY

2.1 General Information

The International Hellenic University (I.H.U.) based in Thessaloniki, was founded by article 1 of Law 3391/2005 (A' 240) and is organized and operates as a Higher Educational Institution (HEI) in the university sector, in accordance with paragraph 1 and indent a' of paragraph 2, article 1, Law 4485/2017 (A'114).

With Law 4610/2019 (Government Gazette 70/A'/7-5-2019) seven (7) Schools were established therein with corresponding Departments in each of them.

Besides, there is a University Center for International Studies in I.H.U., based in Thessaloniki, which operates as an academic unit of the institution.

The following Departments are established at the University Center for International Studies:

- a) Humanities, Social and Economic Sciences, which is part of the School of Humanities, Social and Economic Sciences.
- b) Science and Technology, which is part of the School of Science and Technology

The above Departments are located in different cities in Northern Greece. Most of them are mainly concentrated in four campuses: Thermi (where the University headquarters is also located), Sindos, Serres, and Kavala.

2.2 Academic and Organizational Structure

According to the current legislation, each University is subdivided into Schools, which cover a set of related scientific disciplines, so that the necessary coordination for the quality of the education provided can be ensured. A School is subdivided into individual Departments which also constitute the basic academic units. The units in question cover the subject of a specific scientific field and award the corresponding degree/diploma. The Schools of the International Hellenic University - with their Departments - are as follows:

SCHOOLS	DEPARTMENTS
SCHOOL OF ECONOMICS AND BUSINESS ADMINISTRATION (Thessaloniki)	<ul style="list-style-type: none">• Department of Business Administration (Serres)• Department of Economic Sciences (Serres)• Department of Supply Chain Management (Katerini)• Department of Accounting and Finance (Kavala)• Department of Business Administration, Marketing and Tourism (Thessaloniki)• Department of Accounting and Information Systems (Thessaloniki)• Department of Management Science and Technology (Kavala)
SCHOOL OF SOCIAL SCIENCES	<ul style="list-style-type: none">• Department of Library, Archive and Information Science

(Thessaloniki)	(Thessaloniki) <ul style="list-style-type: none"> • Department of Early Childhood Education and Care (Thessaloniki)
SCHOOL OF HEALTH SCIENCES (Thessaloniki)	<ul style="list-style-type: none"> • Department of Biomedical Sciences Thessaloniki) • Department of Nutritional Sciences and Dietetics (Thessaloniki) • Department of Midwifery Science (Thessaloniki) • Department of Physiotherapy (Thessaloniki) • Department of Nursing (Thessaloniki) • Department of Nursing (Didymoteicho Branch)
SCHOOL OF ENGINEERING (Serres)	<ul style="list-style-type: none"> • Department of Industrial Engineering and Management Thessaloniki) • Department of Environmental Engineering (Thessaloniki) • Department of Information Technology and Electronic Engineering (Thessaloniki) • Department of Computer, Informatics, and Telecommunications Engineering (Serres) • Department of Surveying and Geoinformatics Engineering (Serres) • Department of Mechanical Engineering (Serres) • Department of Civil Engineering (Serres)
SCHOOL OF DESIGN SCIENCES (Serres)	<ul style="list-style-type: none"> • Department of Creative Design and Clothing (Kilkis) • Department of Interior Architecture (Serres)
SCHOOL OF SCIENCES (Kavala)	<ul style="list-style-type: none"> • Department of Computer Science (Kavala) • Department of Physics (Kavala) • Department of Chemistry (Kavala)
SCHOOL OF GEOSCIENCES (Drama)	<ul style="list-style-type: none"> • Department of Agricultural Biotechnology and Oenology (Drama) • Department of Agriculture (Thessaloniki) • Department of Forestry & Natural Environment (Drama) • Department of Food Science and Technology (Thessaloniki)
SCHOOL OF HUMANITIES SOCIAL SCIENCES AND ECONOMIC STUDIES (Thessaloniki)	<ul style="list-style-type: none"> • Department of Humanities Social Sciences and Economic Studies (Thessaloniki)
SCHOOL OF SCIENCE AND TECHNOLOGY (Thessaloniki)	<ul style="list-style-type: none"> • Department of Science and Technology (Thessaloniki)

The administrative bodies of each School are the Deanery and the Dean.

The Deanery of each School consists of:

1. the Dean of the School,
2. the Presidents of the Departments, and
3. representatives of Special Technical Laboratory Staff (E.TE.P.), Special Teaching Laboratory Staff (E.D.I.P.), and students.

The Department is managed by:

1. the Department's Assembly
2. the Management Board, and
3. the President of the Department

The Assembly of the Department is made up of the Educational Staff members of the Department, the technical staff representatives, and undergraduate and postgraduate students. The Assembly and the President of the Department consist of the Bodies of the Departments' (established) directions (Sectors) - where they exist. The Assembly is made up of the Educational Staff members of each course and of student representatives.

2.3 Alexander Campus of the I.H.U.

The Department of Nutritional Sciences and Dietetics currently operates on the premises of the Alexander Campus of the I.H.U., in Sindos, west of Thessaloniki.

The Alexander University Campus is spread over an area of 1,600 acres, a significant part of which is occupied by the farm, while the total area of the buildings is close to 35,000 m². The above facilities are home to two (2) Schools of the I.H.U. (School of Health Sciences and School of Social Sciences) and Departments of three (3) other Schools (School of Management and Economics, School of Engineering, and School of Geotechnical Sciences). The facilities include the central library, the student dormitory, the student club, the central and regional canteens, the network management centre, the indoor gym, the football/basketball fields and the Holy Church of the Three Hierarchs.

The number of students attending the I.H.U. Alexander Campus complex is approaching 18,000. With this number, the Alexander Campus ranks first in terms of the number of students among the other I.H.U. complexes in Serres, Kavala, Themi (where the I.H.U. administration buildings are located), Katerini, Kilkis, Drama, and Didymoteicho.

3. THESSALONIKI

3.1 Thessaloniki

The Alexander Campus of I.H.U., where the Department of Nutritional Sciences and Dietetics is located, is situated between the southern entrance of the town of Sindos and the Thessaloniki-Athens highway, seventeen (17) kilometres west of Thessaloniki and next to the Industrial Area of Thessaloniki.

Thessaloniki was founded in 315 BC by King Cassander of Macedonia and has been an important metropolis throughout the centuries. Today, it is the most important administrative, cultural, and business centre in Northern Greece. Thessaloniki is the second largest city in Greece, the capital of the Prefecture of Thessaloniki, and the seat of the Region of Central Macedonia. According to the last census of 2021, the Municipality of Thessaloniki has a population of 317,778 inhabitants while the regional unit of Thessaloniki has a population of 1,091,424 inhabitants.

3.2 Useful links of transportation

The transition to the city of Thessaloniki can be done:

- ✓ By plane
- ✓ By boat
- ✓ By bus
- ✓ By train
- ✓ By private means

More information can be found at <https://thessaloniki.gr/to-from-thessaloniki-airport-makedonia/?lang=en>

The transfer to the Alexander Campus from the city of Thessaloniki can be done:

- ✓ By public transport
- ✓ By private means

In the second case, you should be aware that cars (private cars) can be parked in the private parking area of the Alexander Campus, and it is sufficient to cover the parking needs of both staff and students' private cars.

4. THE DEPARTMENT OF NUTRITIONAL SCIENCES AND DIETETICS

The Department of Nutritional Sciences and Dietetics was established as the "Department of Human Nutrition" in 1985 (Government Gazette 199/27-11-85, issue A) and accepted its first students in September 1985. It is the first Department of Higher Education in the sciences of Nutrition and Dietetics in Greece and operated under the framework of the Alexander Technological Educational Institute (T.E.I.) of Thessaloniki. It was renamed to "Department of Nutrition and Dietetics" (Government Gazette 222/17-9-2003, issue A) when the title of the graduates was changed from "Nutrition Technologist" to "Nutritionist-Dietician". Initially, it was integrated into the School of Food and Nutrition Technology and then, through the "Athena II Plan", into the School of Agricultural and Food Technology and Nutrition.

The Department of Nutritional Sciences and Dietetics, School of Health Sciences of the International Hellenic University was established in May 2019 by Law 4610 (Government Gazette 90/A/07-05-2019) "Synergies of Universities and T.E.I., access to higher education, experimental schools, General Archives of the State and other provisions", attracting students from the positive direction with increased knowledge of Chemistry and Biology. Today it is one of the five (5) University Departments that treat the sciences of Nutrition and Dietetics in Greece.

The Department of Nutritional Sciences and Dietetics aim to educate in the use, promotion, and transfer of methods, practices, techniques and modern technology in the Nutrition and Dietetics. Aiming at the theoretical and applied training of students, the Department focuses: a) the development of an appropriate theoretical background with emphasis on laboratory and practical training of high quality using modern technologies, b) the development of competencies and skills that will make students competitive in a national and international environment, c) the conduct of research in Nutrition and Dietetics and d) the development of collaborations with other universities and cooperation with institutions active in the field of Nutrition and Dietetics.

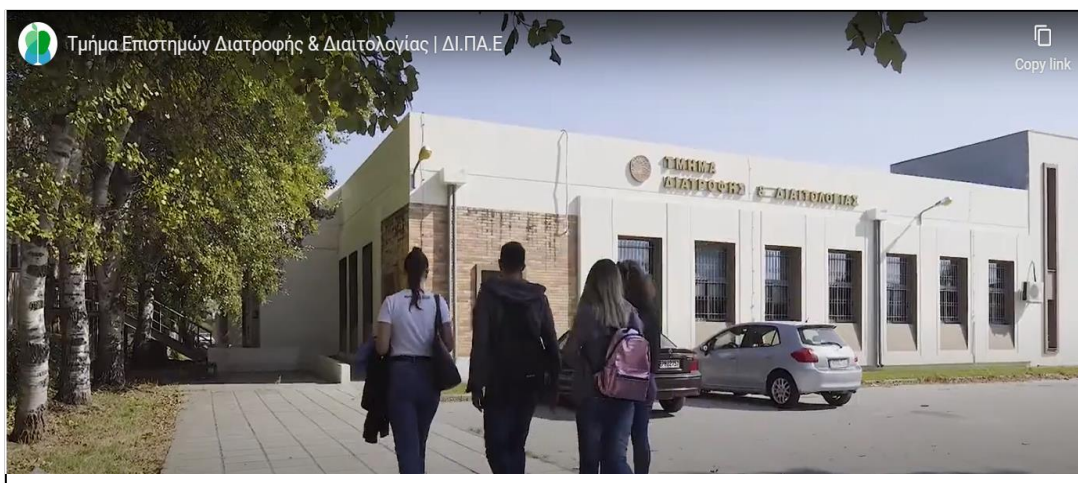


Figure 1. View of the Department's building, Alexander Campus, Sindos, Thessaloniki

5. THE UNDERGRADUATE STUDY PROGRAM

5.1 The aims of the Undergraduate Study Program

The Undergraduate Study Program of the Department of Nutrition and Dietetics started to be implemented in 2019 (approved by decision of the 7th/31-07-2019 International Hellenic University) and concerns students who entered the Department from 2019 onwards. It is a modern course curriculum with specialised teaching modules on topics such as:

- (i) the impact of Nutrition on the development, maintenance, and health of the human body,
- (ii) the composition, technology, processing, handling, and legislation of food; and
- (iii) the design and preparation of diets for physiological and pathological conditions.

The curriculum of the department is also complemented by courses in sciences of Chemistry and Biology, Computer Science and Statistics, and courses in Management, Economics, and Humanities.

5.2 Awarded title and level of qualification

The Department of Nutritional Sciences and Dietetics offers an undergraduate degree in Nutritional Sciences and Dietetics of 8 semesters (48 months) of full-time study. The qualification is called PTYCHIO: BSc in Nutritional Sciences and Dietetics (Bachelor - 1st Cycle of Studies) and is at Level 6 of the National and European Qualifications Framework.

The PTYCHIO certifies the successful completion of the student's studies and offers the possibility of access to postgraduate studies for a Master's degree (2nd cycle) or a Ph.D. degree (3rd cycle).

5.3 Career Prospects for Graduates

Graduates of the department have established professional rights. They can be employed either independently or in cooperation in a) public and private nursing institutions, b) mass feeding facilities, c) special nutrition centres such as sports centres, slimming centres, and dietetic centres, d) research centres, e) education and f) food industries, in areas such as:

- the preparation of diets and supervision of their implementation
- study of the nutritional value of food
- nutritional labelling
- participation in the development of specifications for the manufacture of new products
- taking responsibility for and supervising the mass production of meals.

6. INFORMATION on the CURRICULUM of STUDIES

6.1 Duration of Studies

The first cycle of studies in the Department of Nutritional Sciences and Dietetics, School of Health Sciences of the International Hellenic University requires attending an Undergraduate Study Program (USP), which includes courses corresponding to a minimum of 240 credits (ECTS). It typically lasts four (4) academic years (8 academic semesters) and culminates in the award of Bachelor's degree. In each academic year, the student chooses educational activities corresponding to 60 credits (ECTS) (LAW 4009/2011)

The maximum duration of study in a first-cycle study program consists of a minimum duration of eight (8) academic semesters for the award of the degree, increased by four (4) academic semesters. In a study program whose minimum time exceeds eight (8) academic semesters, the maximum duration of study is the minimum study time, increased by four (4) academic semesters. After the completion of the maximum period of study, the Department issues an act of deletion (article 76, Law 4957/2022).

Students who have not exceeded the upper limit of study may, after applying to the Department Secretariat, interrupt their studies for a period of time that does not exceed two (2) years. The right to interrupt studies may be exercised once or partially for a period of at least one (1) academic semester, but the duration of the interruption may not cumulatively exceed two (2) years, in case it is partially provided. Student status is suspended during the interruption of studies and participation in any educational process is not allowed (article 76, LAW 4957/2022).

6.2 Admission and Registration

Students are those who are registered in the Department of the Nutritional Sciences and Dietetics of the I.H.U. after passing the entrance exams to higher education, by transfer or by qualifying exams in accordance with the current regulations.

The registration of newly admitted students takes place at the Department's Secretariat within the time limits defined each time by the Ministerial Decisions.

The passing candidates of the Panhellenic examinations who completed their registration through the electronic application of the Ministry of Education must carry out the identity check at the Secretariats of their Departments, submitting the following supporting documents.

1. Application for registration (printed from the website of the Ministry of Education),
2. Photocopy of identity card (ID),
3. One (1) photo (ID type),

For the remaining categories of new entrants, the required supporting documents are announced on a case-by-case basis.

6.3 Academic Year Calendar

The academic year starts on September 1 every year and ends on August 31 of the following year. The educational work of every academic year is organized into two semesters, the winter semester and the spring semester, each of which comprises 13 weeks of teaching and one examination period (three weeks of exams).

For the Department of Nutritional Sciences and Dietetics, the total number of semesters required to complete a course, as specified in the curriculum, is eight (8) semesters.

Winter semester courses start in the last week of September and end in mid-January, followed by the first exam period of the winter semester.

Spring semester courses start in late-February and end at the end of May, followed by the first exam period of the spring semester.

The exact dates are determined by the administrative bodies of I.H.U. Every semester has two exam periods:

Winter semester courses are examined during the exam period January-February; re-sit exams are held in September.

Spring semester courses are examined during the exam period of June; re-sit exams are held in September.

Every semester, and before the beginning of each exam period, students have the right and obligation to evaluate their courses and instructors, aiming at the improvement of the quality of their studies.

More information is available at the website of the Quality Assurance Unit (MODIP-I.H.U.) and the website of their Faculty/School.

HOLIDAYS

Courses or exams are not held in the two months of the summer holidays (July and August). Holidays also include:

Christmas Holidays: December 24 to January 7.

January 30: The Three Patron Saints of Education Day

Clean Monday

March 25. The Annunciation / National Anniversary of the 1821 Revolution against the Turkish Rule

Easter Holidays: from Holy Monday to Thomas Sunday

May 1st: Labor Day

Holy Spirit Day: Monday (after Pentecost).

October 28: National celebration

November 17: Students' uprising in the National Technical University of Athens against the junta in 1973

On the feast day of the Patron Saint of the city of Thessaloniki (October 26)

6.4 Course declaration - Renewal of registration

At the beginning of each semester and within a regular deadline posted on the Department's website, each student is required to renew his/her registration. The renewal is done by submitting an online Course Declaration, which includes the courses that the student has decided to take in the given semester. With this declaration, each student acquires the right:

- ✓ to receive the teaching aids available for these courses
- ✓ to take the examinations for the courses declared during the examination period.

After the deadline, no course declarations or requests for changes to the original declaration submitted by the deadline will be accepted, unless an extension is granted by the relevant Directorate of Studies of the IHU.

Students up to the 8th semester can register for courses corresponding to 36 ECTS credits and students >8th semester can register for courses corresponding to >36 ECTS credits.

6.5 Academic ID- Student pass

Since 09/24/2012, undergraduate, postgraduate, and doctoral students of all Universities in the country can electronically apply for the issuance of their academic identity card

[Ηλεκτρονική Υπηρεσία Απόκτησης Ακαδημαϊκής Ταυτότητας - Informational Portal \(minedu.gov.gr\)](http://minedu.gov.gr)

Electronic Service for Acquiring Academic Identity - Information Portal (minedu.gov.gr).

6.6 Teaching Aids and Resources

The educational work is supported by the corresponding coursebooks, which are provided free of charge to the students, through the Electronic Integrated Book Management Service (Eudoxus). Students, after submitting the electronic declaration of courses each semester, also make the corresponding declaration of books on the web portal of the "EUDOXUS" system (<http://eudoxus.gr/>), with which they declare the coursebooks they wish to receive.

6.7 Course of Undergraduate Study Program

The Undergraduate Study Program supports 58 courses including Thesis and Internship, of which 44 are Mandatory Courses (MC), 13 are Elective Courses (EC) and 1 is Optional General Education course. The Internship belongs to Mandatory Courses. The Thesis belongs to the Elective Courses.

The required number of courses for obtaining a Bachelor's degree is:

- either, 43 Mandatory Courses + Internship + 7 Elective Courses (Total 240 ECTS)
- or, 43 Mandatory Courses + Internship + 4 Elective Courses + Thesis (Total 240 ECTS)

ECTS credits: Each course of the Department's Course Curriculum is characterized by a number of credits. The ECTS credits, which are allocated to each course, are a measure of the workload required to complete the objectives of an Academic Program by each student.

Grade Scale: Grading is expressed as a numerical scale from zero to ten (0 - 10), and five (5) is the minimum passing mark.

6.8 Examinations

The examination periods are three (3) per Academic Year and last three (3) weeks:

1. The first examination period is held after the completion of the Winter Semester (January-February period).
2. The second examination period takes place after the end of the spring semester (June period).
3. The September Examination Period is held before the beginning of the next Academic Year.

During the First and Second Examination Periods, students are examined in the entire syllabus of those courses that they have registered for and taught in the Winter and Spring semesters, respectively. Students who have not received a qualifying grade in the courses during the first and/or second examination period are entitled to be examined in the courses of both semesters in the September Examination Period.

Course examinations are compulsory for all students and are conducted according to the Examination Program of the Department. The grading in each course is determined by the teaching staff, who may, at his/her discretion, organize written or oral examinations or rely on assignments or laboratory exercises. If a student fails more than three times in a course, the Dean of the School shall decide that the student shall be examined, at his/her request, by a committee of three academic staffs of the School who have the same or a related subject. The staff responsible for the examination shall be excluded from the committee. In case of failure, the student continues his/her studies and participates in the examinations according to the terms and conditions set out in the Internal Regulations of the International Hellenic University (Government Gazette B' 4889/06.11.2020).

Cheating during examinations is considered a serious Disciplinary Offence and may result in a penalty of exclusion from the examinations of one or more courses for a period of one or two semesters.

6.9 Bachelor's Diploma Thesis

The aim of the thesis is for the student to gain experience in the methodology of research and the way of writing a scientific text. Thesis is optional (Elective Course) and is equivalent to 9 ECTS credits. The starting date of the Thesis is the 8th Semester of Studies, provided that the student does not owe more than five (5) courses of any discipline.

The duration of the thesis is defined from one to three semesters. The list of thesis topics is available from the Department's teaching Staff. After consultation with the supervisor, the student submits a Thesis Topic Request Form to the Secretariat.

The presentation - examination of the Thesis is done in the presence of a three-member Examination Committee and is an open procedure (in the presence of an audience, e.g., the Department's teaching staff and students). Presentations of the theses are made in each examination period and on dates decided by the Departmental Assembly.

6.10 Work placement (internship)

Internship (I) in the profession is mandatory for all students and lasts for five (5) months, while it is included in the 8th semester of study according to the Undergraduate Study Program of the Department of Nutritional Sciences and Dietetics (I.H.U.).

The purpose of the Internship is to train students in the context of the Department's subject matter and to develop skills and gain work experience in everything related to the profession of Nutritionist-Dietician.

The Internship can be carried out entirely in one host organisation (FI) or, if there is the possibility for both students and FIs, it can be split into two parts:

- PART I: Two (2) months of Internship in the Community or in a Food Business
- Part II: Three (3) months of Internship in a hospital/clinic

The requirements for students to be eligible to undertake an Internship are as follows: from the 8th semester onwards and provided that students have successfully completed all the specialization courses of the Undergraduate Study Program and have a total of at least 170 ECTS.

The Internship can be carried out in both public and private sector host institutions, as well as in Research Centres, institutions, or companies of the European Union, in the framework of the Erasmus programs. Potential employment opportunities include healthcare institutions, food service providers, wellness programs, home health services, health clubs, government programs, research, consultancy services, and businesses. Upon completion of the Internship, student interns will have acquired basic level knowledge and developed skills of good professional attitudes consistent with the ethics of the dietetic - nutrition profession.

A student who meets the requirements applies/declares to begin the Internship. The Internship committee allocates students to existing positions after considering their statements. The Internship Committee appoints a Supervising Educator for each intern who may be a faculty member or a member of the Laboratory Teaching Staff.

Internship via Erasmus mobility

Students are entitled to do their internship abroad "in addition" to their mobility for studies and up to a total of 360 days (from 2 to 12 months) in companies, research centres, universities, or other organisations.

In order to do the internship (from 2 to 12 months) after being accepted by an organisation (company, research centre, etc.), the student completes all the necessary forms for the internship as defined by the Erasmus Office of the I.H.U and submits them also to the Erasmus Office. Particularly important is the Learning Agreement form, which is signed a) by the Internship Supervisor of the host organisation, b) by the Erasmus Supervisor of the I.H.U, and c) by the student himself/herself.

At the same time, in addition to the forms that the student must fill in, he/she must also submit to the Erasmus Office a certificate from the Secretariat of his/her Department confirming that his/her Department allows him/her to carry out his/her Internship. For the Erasmus Internship, the student should consult the Erasmus Academic Officer of the Department. After the completion of the Erasmus mobility placement, the student must contact both the Erasmus office and the Erasmus Academic Officer of the Department of the I.H.U and submit the Learning Agreement After the Mobility to both parties. Then, to recognise the student's placement, the Erasmus Academic Officer of the Department, based on the Learning Agreement After the Mobility, draws up and signs a certificate of completion of the placement and submits it to the Department's Assembly for approval.

6.11 Degree Grade - Declaration of Graduation

Successful completion of the Undergraduate Study Program leads to the award of the PTYCHIO: BSc in Nutritional Sciences and Dietetics (Bachelor - 1st Cycle of Studies, Level 6 of the National and European Qualification Framework). The minimum number of courses for the bachelor's degree should cover 240 ECTS credits.

When the student has fulfilled all his/her obligations, he/she takes part in the Degree Ceremony and the Degree Award Ceremony. This ceremony takes place in public in a Ceremonial Hall of the Institution.

The PTYCHIO certifies the successful completion of the student's studies and indicates the degree, to two decimal places. The designation assigned based on the degree grade is: "Excellent" from 8.50 to 10, "Very Good" from 6.50 to 8.49, and "Good" from 5 to 6.49.

6.12 Diploma Supplement

Upon completion of their studies, students receive the Diploma Supplement in Greek and English, respectively. The Diploma Supplement is based on a template developed by the European Commission, the Council of Europe, and UNESCO/CEPES.

The aim of the Diploma Supplement is to provide sufficient independent evidence to improve international "transparency" and fair academic and professional recognition of qualifications (diplomas, degrees, certificates, etc.). It is designed to describe the nature, level, background, content, and status of studies successfully completed by the person named in the original of the qualification to which this Annex is attached. The Diploma Supplement does not make any judgement on merit, and there are no statements of equivalence or proposals for recognition.

6.13 Digital Skills Certificate

Upon completion of their studies, students can receive the Certificate of Digital Skills. Digital Skills are acquired by successfully completing the following courses in the Department's Undergraduate Curriculum:

1. INFORMATICS (1st Semester): Windows environment, word processing (Microsoft Word), Basic use of worksheets (Microsoft Excel).
2. RESEARCH METHODOLOGY (3rd Semester): Creating electronic documents using bibliography (Writing a paper in Microsoft Word), using a bibliography management program (Mendeley, Zotero), creating an electronic Presentation (Microsoft Powerpoint)
3. NUTRITION INFORMATICS: Design and creation of Nutrition Databases (Microsoft Access), collection and analysis of data from digital sensors (activity sensors), digital collaborative tools
4. BIOSTATISTICS IN NUTRITION: Advanced use of worksheets (Microsoft Excel), Data analysis (Microsoft Excel), use of Statistical Analysis programs (SPSS)

7. STAFF OF THE DEPARTMENT

7.1 The Staff of the Department

The staff of the Department of Nutritional Sciences and Dietetics is divided into Teaching and Research Staff, Special Teaching Laboratory Staff, Special Technical Laboratory Staff and Administrative Staff with corresponding responsibilities.

The Department of Nutritional Sciences and Dietetics is staffed with 15 Teaching and Research Staff members, 3 Emeritus Teaching and Research Staff members, 4 Special Teaching Laboratory Staff members and 3 Special Technical Laboratory Staff members.

The members of the Teaching and Research Staff belong to four academic ranks: Professors, Associate Professors, Assistant Professors, and Lecturers, while their teaching work is supported by the members of the Special Teaching Laboratory Staff and Special Technical Laboratory Staff. At the same time, the educational process of the Department is also supported by External Associates.

TABLE of the TEACHING AND RESEARCH STAFF			
A/A	FULL NAME	TITLE	SUBJECT AREA/ SPECIALTY
1.	VARDAKA, Elisabeth	Professor	NUTRITIONAL AND ENVIRONMENTAL MICROBIOLOGY
2.	THOMIDIS, Thomas	Professor	PHYTOPATHOLOGY
3.	KALOGIANNIS, Stavros	Professor	METABOLISM BIOCHEMISTRY
4.	LEONTARIDOU, Ioanna	Professor	AESTHETIC-WAXING
5.	PAPADOPOULOS, Athanasios	Professor	ORGANIC-INORGANIC CHEMISTRY
6.	HASSAPIDOU, Maria	Professor	NUTRITION - DIETETICS
7.	KOKOKIRIS, Lambros	Associate Professor	FISH REPRODUCTION PHYSIOLOGY
8.	PAPADOPOULOS, Iordanis	Associate Professor	DERMATOLOGY-AESTHETICS
9.	KARASTOGIANNIDOU, Calliope	Assistant Professor	IMPACT OF PROCESSING ON FOOD QUALITY
10.	KATSIKI, Niki	Assistant Professor	CLINICAL DIETETICS
11.	PAGKALOS, Ioannis	Assistant Professor	NUTRITION INFORMATICS
12.	PAPADOPOULOU, Sousana	Assistant Professor	NUTRITION IN EXERCISE AND SARCOPENIA
13.	PRITSA, Agathi	Assistant Professor	BIOCHEMISTRY, SYNTHESIS AND APPLICATIONS OF BIOACTIVE COMPOUNDS

TABLE of the TEACHING AND RESEARCH STAFF

14.	TERZIDIS, Michael	Assistant Professor	SYNTHESIS AND STUDY OF BIOACTIVE COMPOUNDS WITH EFFECT ON HUMAN NUTRITION
15.	GIANNAKOUDAKI, Anna	Lecturer	COSMETOLOGY

TABLE of the EMETIRUS STAFF

A/A	FULL NAME	TITLE	SUBJECT AREA/ SPECIALTY
1.	ALEXIADIS, Aristidis-Dimitrios	Professor Emeritus	HEALTH LAW
2.	KARAGIOZOGLOU-LAMPOUDI, Thomai	Professor Emeritus	CLINICAL NUTRITION
3.	KIRANAS, Efstratios	Professor Emeritus	INORGANIC CHEMISTRY - FOOD PROCESSING

TABLE of the Special Teaching Laboratory Staff and Special Technical Laboratory Staff

A/A	FULL NAME	CATEGORY	SUBJECT AREA/ SPECIALTY
1.	APOSTOLIDOU, Konstantina	Special Teaching Laboratory Staff	CLINICAL NUTRITION - DIETETICS
2.	GEROTHANASI, Konstantina	Special Teaching Laboratory Staff	FOOD PREPARATION FOR MASS CATERING AND SPECIAL DIETS
3.	DOULGERAKI, Stefania	Special Teaching Laboratory Staff	BIOLOGY OF ORGANISMS, TEACHING OF BIOLOGY IN NUTRITION
4.	STEFANIDIS, Vasileios	Special Teaching Laboratory Staff	HEALTH INFORMATICS
5.	ARGYROU, Anna	Special Technical Laboratory Staff	AESTHETICS AND COSMETOLOGY
6.	VINOY, Margarita	Special Technical Laboratory Staff	BIOCHEMISTRY
7.	PAPAKITSOS, Christos	Special Technical Laboratory Staff	INFORMATICS

TABLE of the ADMINISTRATIVE STAFF		
A/A	FULL NAME	
1)	DELIDOU, Apostolia	HEAD OF THE SECRETARIAT
2)	KOULOURIS, Christos	ASSISTANT SECRETARY

7.2 Administration/Secretariat Office: Duties and working hours

The Department Secretariat is responsible for student and administrative matters.

Student services are provided on all working days, and during the hours of 11.00 am to 13.00 pm, at the offices of the Department Secretariat.

Student issues include:

- Registration Procedures
- keeping the students' records, which include their grades, registration renewals every semester, and information about scholarships,
- granting Certificates and Degrees,
- granting certificates for legal use,
- issuing paper forms required for the students' Internship,
- creating/filling in student lists, according to their course enrolment declaration
- registration cancellations of students who have two consecutive non-renewal of registration or three non-consecutive non-renewal of registration.

Regarding first-year student registrations, transfers, and registration of those passing the qualifying exams in the Department of Nutritional Sciences and Dietetics of the I.H.U., the following apply:

Registration Renewals - Course Declarations are carried out through the Electronic Secretariat at the beginning of each Semester, and for a period of approximately fifteen (15) days. Each student has his/her own personal code, obtained from the Department's Secretariat, with which s/he declares courses electronically.

After the lists of successful candidates in the National Examinations are sent by the Ministry of Education, the registration deadline for new entrants is set, which is common for all higher education institutions in the country. This deadline should not be missed, otherwise latecomers lose the right to register. Registration of new entrants takes place in September.

From November 1 to 15, relevant application forms are submitted for:

- Transfers for financial, social, health reasons, etc., as well as for the children of large families, unless otherwise specified by law.
- Enrolment of Higher Education Graduates, who succeeded in qualifying exams, held every year, at the beginning of December.

7.3 The Role of the Academic Advisor (Tutor)

The institution of the Academic Advisor (Tutor) has been implemented by the Department of Nutritional Sciences and Dietetics for a long time. Each year, by decision of the Department, a member of the Teaching and Educational Staff is designated an academic advisor for every first-year student for information and guidance in study matters. The academic advisor informs the students about his/her role and invites them to an introductory meeting. Students are required and encouraged to communicate regularly with their Academic Advisor, discuss educational issues, and utilize his/her knowledge and experience throughout the years of their studies.

7.4 Evaluation of the Educational Project

The evaluation of the teaching process is an essential means of achieving the objectives of education, through continuous improvement and the best possible performance of teaching work and ensuring the quality of studies. The process of evaluation of teaching work is implemented in accordance with Article 28 of the Internal Regulations of the International Hellenic University (Government Gazette B' 4889/06.11.2020).

Students are encouraged to actively participate in the evaluation process of the teaching work. During each semester, students, under the responsibility of the Department, are invited to complete a questionnaire for the evaluation of their educational work. Student participation is voluntary and the questionnaires are anonymous. However, completing questionnaires seriously and responsibly is crucial to identify any weaknesses in the education offered and to continuously improve its quality.

8. FACILITIES - RESEARCH

8.1 Laboratory Spaces and Teaching Classrooms

The Department has 53 rooms distributed in 4 buildings. Among them are a fully equipped auditorium, 4 classrooms for theoretical courses, 18 laboratory rooms (including 10 laboratory training rooms and 8 research rooms), 2 storage rooms, and 19 offices for teaching and technical staff.

8.2 Institutional Research Laboratories

The following Institutional Research Laboratories operate in the department:

1. Laboratory of Dietetics and Sports Nutrition
2. Laboratory of Food Science and Nutritional Behavior
3. Laboratory of Chemical Biology
1. [Nutrition Information Systems Laboratory - NISLAB](#)

8.3 Research

Alongside its educational activities, the department is heavily involved in research. The Department has many years of research experience in areas such as:

- Studies relevant to the nutritional intake, dietary habits and anthropometrics in health and disease
- Study of anthropometric characteristics, eating habits and nutritional intake of Greek athletes
- Childhood Obesity: recording, monitoring (WHO COSI initiative).
- Advice on nutrition and health claims
- Personalized Nutrition
- Applications and Impact of IT (software, web technologies, Social Media, devices and sensors) on Nutritional Sciences
- Application of chromatography / mass spectrometry (LC / MS) methodologies in food (Foodomics)
- Multiparametric food analysis
- Formulation of food composition tables for Greek foods.
- Advice on nutritional labeling
- Determining the consumption of food supplements
- Molecular diversity of microorganisms in dietary supplements
- Role of the microbiome in human nutrition and well-being
- Determination of the antioxidant capacity of food.
- Determination of antimicrobial activity
- Biomarkers for oxidative stress
- Food immunomodulation
- Food allergy and food intolerance
- Inflammaging and nutrition
- Nutritional psychiatry
- Disordered eating

9. THE UNDERGRADUATE STUDY PROGRAM

The courses of the Undergraduate Study Program of the Department of Nutritional Sciences and Dietetics are classified into:

- **Mandatory Course (MC):** background courses and basic courses of the specialty, compulsory and common for all students
- **Elective Course (EC):** compulsory courses which can be freely chosen from a list of available courses.
- **Optional courses (OC):** non-compulsory courses of general education or courses of advanced, infrastructural, or interdisciplinary nature, which can be freely chosen by students during their studies.

Based on their subject matter, the courses are characterised as:

- **General Background Courses (GBC)**
- **Special Background Courses (SBC)**
- **Specialised General Knowledge Courses (SGKC)**

The **General Background Courses** offer basic knowledge of Chemistry, Biology, Statistics, and Informatics while the **Special Background Courses** and **Specialised General Knowledge Courses** cover the largest percentage of the courses of the Curriculum and are the ones that characterize the specialization of the Dietitian-Nutritionist.

Each course can be:

- **Theoretical (T):** includes only the theoretical part (T)
- **Mixed (T+L):** includes Theoretical (T) and Laboratory part (L).

The theoretical courses present a broad area of a subject and the related issues.

In the laboratory courses, students, under the supervision and guidance of the teaching staff, are trained in the application of methods and techniques, in group work, in the writing and drafting of papers, and in a variety of other subjects that lead to the acquisition of the appropriate skills of the Dietitian-Nutritionist. In these courses, students are divided into small groups and attendance is compulsory.

In order for a mixed course to be considered successfully completed, the student must pass both the theoretical and laboratory parts of the course. The marks obtained by the student in each of the two parts are added together in the final grade of the course according to the academic units that determine the weighting of the theoretical and laboratory parts of the course. If the student fails in one of the two parts of the mixed course, the student shall repeat only that part.

Prerequisite Courses

If the knowledge provided in one course is a prerequisite for the successful completion of another course, the first course is designated as a Prerequisite for the second (Dependent). The Prerequisites and Dependent Courses of the Curriculum of the Department of Nutrition and Dietetics are as follows:

Prerequisites Courses	Dependent Courses
HUMAN PHYSIOLOGY (2 nd Semester)	PHYSIOLOGY OF ALIMENTATION (4 th Semester)
HUMAN GENETICS (1 st Semester)	NUTRIGENETICS (5 th Semester)
NUTRITIONAL ASSESSMENT-DIET PLAN (3 rd Semester)	NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS I (5 th Semester)
NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS I (5 th Semester)	NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS II (6 th Semester)
INTRODUCTION TO BIOSTATISTICS (3 rd Semester)	BIOSTATISTICS IN NUTRITION (7 th Semester)
BIOCHEMISTRY OF MACRONUTRIENTS METABOLISM (4 th Semester)	DIET AND OBESITY (7 th Semester)
Thirteen (13) Elective Courses:	INTERNSHIP (8 th Semester)
1. NUTRITIONAL ASSESSMENT-DIET PLAN (3 rd Semester)	
2. BASIC PRINCIPLES OF CLINICAL NUTRITION (4 th Semester)	
3. NUTRITION DURING PREGNANCY AND CHILDHOOD (4 th Semester)	
4. NUTRITION DURING ADULTHOOD AND OLDER AGE (5 th Semester)	
5. NUTRITION, EXERCISE AND QUALITY OF LIFE (5 th Semester)	
6. NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS I (5 th Semester)	
7. SPORTS AND NUTRITION (6 th Semester)	
8. NUTRITIONAL EDUCATION - HEALTH EDUCATION (6 th Semester)	
9. NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS II (6 th Semester)	
10. NUTRITION INFORMATICS (6 th Semester)	
11. DIET AND OBESITY (7 th Semester)	
12. NUTRITIONAL SUPPORT FOR PEDIATRIC PATIENTS (7 th Semester)	
13. MASS FOOD PRODUCTION (7 th Semester)	

9.1 Table I. An Overview of the Undergraduate Study Program

Semester								NOTES
1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	
INTRODUCTION TO NUTRITIONAL SCIENCES	FOOD ADDITIVES AND LEGISLATION	NUTRITIONAL ASSESSMENT-DIET PLAN	PRINCIPLES OF FOOD PREPARATION	FOOD CONTROL AND ANALYSIS	HUMAN MICROBIOME	BIOSTATISTICS IN NUTRITION	INTERNSHIP (I)	General Background (GB)
FOOD SCIENCE	FUNCTIONAL FOODS	PSYCHOLOGY AND NUTRITION	EPIDEMIOLOGY AND PUBLIC HEALTH	NUTRIGENETICS	PHARMACOLOGY IN NUTRITION	FOOD TECHNOLOGY AND QUALITY CONTROL	ECONOMY, NUTRITION POLICY AND PUBLIC HEALTH	Special Background (SB)
GENERAL AND INORGANIC CHEMISTRY	ORGANIC CHEMISTRY	PATHOPHYSIOLOGY	PHYSIOLOGY OF ALIMENTATION	NUTRITION DURING ADULTHOOD AND OLDER AGE	SPORTS AND NUTRITION	DIET AND OBESITY	ENTERAL AND PARENTERAL NUTRITION	Specialised general knowledge, skills development (SD)
CELL BIOLOGY	ANALYTICAL CHEMISTRY AND INSTRUMENTAL ANALYSIS	FOOD TOXICOLOGY	BASIC PRINCIPLES OF CLINICAL NUTRITION	NUTRITION, EXERCISE AND QUALITY OF LIFE	NUTRITIONAL EDUCATION - HEALTH EDUCATION	NUTRITIONAL SUPPORT FOR PEDIATRIC PATIENTS	PHYSIOLOGY OF EXERCISE AND SPORTS PERFORMANCE	Mandatory Courses (MC)
INFORMATICS	HUMAN PHYSIOLOGY	INTRODUCTION TO BIOSTATISTICS	NUTRITION DURING PREGNANCY AND CHILDHOOD	NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS I	NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS II	MASS FOOD PRODUCTION	QUALITY ASSURANCE	Elective Courses (EC)
FOOD MICROBIOLOGY	FOREIGN LANGUAGE - NUTRITION TERMINOLOGY	INTRODUCTION TO BIOCHEMISTRY	BIOCHEMISTRY OF MACRONUTRIENTS METABOLISM	ETHICS AND DEONTOLOGY	NUTRITION INFORMATICS	MEDITERRANEAN DIET AND HEALTH	PROFESSIONAL SKILLS	Optional Courses (OC)
HUMAN GENETICS		RESEARCH METHODOLOGY			FOOD AND ENVIRONMENT	BIOCHEMISTRY OF MICRONUTRIENTS METABOLISM	FIRST AID	
		FOREIGN LANGUAGE (OC)			NUTRITION, PHYSICAL AND PERFORMANCE EVALUATIONS		ENTERPRENEURSHIP	
							NUTRITIONAL COUNCELING AND COMMUNICATION	
							Bachelor's DIPLOMA THESIS (DT)	
COURCES AND ECTS per SEMESTER								Degree Grade - Declaration of Graduation
7 MC 30 ECTS	6 MC 30 ECTS	7 MC 30 ECTS	6 MC 30 ECTS	6 MC 30 ECTS	6 MC + 1 EC 30 ECTS	5 MC + 1 EC 30 ECTS	1MC (I) + 5 EC or 1 MC (I) + DT + 2 EC 30 ECTS	44 MC + 7 EC or 44 MC + DT + 4 EC 240 ECTS

9.2 Table II. Elective Courses

semester	General Background (GB)	Special Background (SB)	Specialised general knowledge, skills development (SD)	Modes of choice (ex. 1 of 3 courses)
6th		FOOD AND ENVIRONMENT		1 of the 2 courses
		NUTRITION, PHYSICAL AND PERFORMANCE EVALUATIONS		
7th		MEDITERRANEAN DIET AND HEALTH		1 of the 2 courses
		BIOCHEMISTRY OF MICRONUTRIENTS METABOLISM		
8th	PROFESSIONAL SKILLS	ENTERAL AND PARENTERAL NUTRITION	Bachelor's DIPLOMA THESIS (DT)	5 of the 8 courses (General or/and Special Background) <u>without DT</u> or 2 of the 8 courses (General or/and Special Background) <u>and DT</u>
	QUALITY ASSURANCE	ECONOMY, NUTRITION POLICY AND PUBLIC HEALTH		
	ENTERPRENEURSHIP	PHYSIOLOGY OF EXERCISE AND SPORTS PERFORMANCE		
	FIRST AID			
	NUTRITIONAL COUNCELING AND COMMUNICATION			

9.3 Undergraduate Study Program per Semester

NOTES

T, PW: Hours of Theory, Laboratory works

HW : Hours per week

GB: *general background*

SB: *special background*

SD: *specialised general knowledge, skills development*

MC: *Mandatory Courses*

EC: *Elective Courses*

OC: *Optional Courses*

1st Semester (7 Mandatory Courses)

A/A	CODE	COURSE	COURSE TYPE	T	LW	HW	Course total	ECTS
1	277-190101	INTRODUCTION TO NUTRITIONAL SCIENCES	SB (MC)	3		3	120	4
2	277-190102	FOOD SCIENCE	GB (MC)	3		4	120	4
3	277-190103	GENERAL AND INORGANIC CHEMISTRY	MFY (MC)	3	3	6	180	6
4	277-190104	CELL BIOLOGY	GB (MC)	2		2	90	3
5	277-190105	INFORMATICS	GB (MC)	2	2	4	120	4
6	277-190106	FOOD MICROBIOLOGY	GB (MC)	2	2	4	150	5
7	277-190107	HUMAN GENETICS	GB (MC)	3		3	120	4
		Total				25	900	30

2nd Semester (6 Mandatory Courses)

A/A	CODE	COURSE	COURSE TYPE	T	LW	HW	Course total	ECTS
1	277-190201	FOOD ADDITIVES AND LEGISLATION	SB (MC)	3		3	120	4
2	277-190202	FUNCTIONAL FOODS	SB (MC)	2		2	90	3
3	277-190203	ORGANIC CHEMISTRY	GB (MC)	3	3	6	210	7
4	277-190204	ANALYTICAL CHEMISTRY AND INSTRUMENTAL ANALYSIS	GB (MC)	3	3	6	180	6
5	277-190205	HUMAN PHYSIOLOGY	SB (MC)	3	2	5	180	6
6	277-190206	FOREIGN LANGUAGE - NUTRITION TERMINOLOGY	GB (MC)	3		3	120	4
		Total				25	900	30

3rd Semester (7 Mandatory Courses and 1 Optional Course)

A/A	CODE	COURSE	COURSE TYPE	T	LW	HW	Course total	ECTS
1	277-190301	NUTRITIONAL ASSESSMENT-DIET PLAN	SD (MC)	3	3	6	210	7
2	277-190302	PSYCHOLOGY AND NUTRITION	SB (MC)	3		2	90	3
3	277-190303	PATHOPHYSIOLOGY	GB (MC)	3		3	120	4
4	277-190304	FOOD TOXICOLOGY	GB (MC)	2		2	90	3
5	277-190305	INTRODUCTION TO BIOSTATISTICS	GB (MC)	3		3	120	4
6	277-190306	INTRODUCTION TO BIOCHEMISTRY	GB (MC)	3	3	6	180	6
7	277-190307	RESEARCH METHODOLOGY	GB (MC)	1	2	3	90	3
8	277-190308	FOREIGN LANGUAGE	GB (OC)	3		3		
		Total				25	900	30

4th Semester (6 Mandatory Courses)

A/A	CODE	COURSE	COURSE TYPE	T	LW	HW	Course total	ECTS
1	277-190401	NUTRITION DURING PREGNANCY AND CHILDHOOD	SD (MC)	3		3	120	4
2	277-190402	BASIC PRINCIPLES OF CLINICAL NUTRITION	SD (MC)	3	3	6	210	7
3	277-190403	EPIDEMIOLOGY AND PUBLIC HEALTH	SB (MC)	2		2	90	3
4	277-190404	PRINCIPLES OF FOOD PREPARATION	SB (MC)	3	3	6	180	6
5	277-190405	BIOCHEMISTRY OF MACRONUTRIENTS METABOLISM	GB (MC)	3	3	6	180	6
6	277-190406	PHYSIOLOGY OF ALIMENTATION	SB (MC)	3		3	120	4
		Total				26	900	30

5th Semester (6 Mandatory Courses)

A/A	CODE	COURSE	COURSE TYPE	T	LW	HW	Course total	ECTS
1	277-190501	NUTRITION DURING ADULTHOOD AND OLDER AGE	SD (MC)	3		3	120	4
2	277-190502	NUTRITION, EXERCISE AND QUALITY OF LIFE	SD (MC)	3		3	120	4
3	277-190503	ETHICS AND DEONTOLOGY	GB (MC)	3		3	120	4
4	277-190504	NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS I	SD (MC)	3	3	6	210	7
5	277-190505	FOOD CONTROL AND ANALYSIS	SB (MC)	3	3	6	210	7
6	277-190506	NUTRIGENETICS	SB (MC)	3		3	120	4
		Total				24	900	30

6th Semester (6 Mandatory Courses and 1 Elective Course)

A/A	CODE	COURSE	COURSE TYPE	T	LW	HW	Course total	ECTS
1	277-190601	NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS II	SD (MC)	3	3	6	210	7
2	277-190602	NUTRITIONAL EDUCATION - HEALTH EDUCATION	SD (MC)	2		2	90	3
3	277-190603	SPORTS AND NUTRITION	SD (MC)	3	3	6	180	6
4	277-190604	NUTRITION INFORMATICS	SD (MC)	2	3	4	150	5
5	277-190605	PHARMACOLOGY IN NUTRITION	SB (MC)	2		2	90	3
6	277-190606	HUMAN MICROBIOME	SB (MC)	2		2	90	3
7	277-190607	FOOD AND ENVIRONMENT	SB (EC)	2		2	90	3
8	277-190608	NUTRITION, PHYSICAL AND PERFORMANCE EVALUATIONS	SB (EC)	2		2	90	3
		Total				24	900	30

7th Semester (5 Mandatory Courses and 1 Elective Course)

A/A	CODE	COURSE	COURSE TYPE	T	LW	HW	Course total	ECTS
1	277-190701	NUTRITIONAL SUPPORT FOR PEDIATRIC PATIENTS	SD (MC)	3	2	5	180	6
2	277-190702	DIET AND OBESITY	SD (MC)	3		3	120	4
3	277-190703	FOOD TECHNOLOGY AND QUALITY CONTROL	SB (MC)	3	3	6	180	6
4	277-190704	MASS FOOD PRODUCTION	SD (MC)	3	3	6	180	6
5	277-190705	BIOSTATISTICS IN NUTRITION	SB (MC)	2	2	4	150	5
6	277-190706	MEDITERRANEAN DIET AND HEALTH	SB (EC)	2		2	90	3
7	277-190707	BIOCHEMISTRY OF MICRONUTRIENTS METABOLISM	SB (EC)	2		2	90	3
		Total				26	900	30

8th Semester (Internship, Thesis and 2 Elective Courses or Internship and 5 Elective Course)

A/A	CODE	COURSE	COURSE TYPE	T	LW	HW	Course total	ECTS
1	277-190801	ECONOMY, NUTRITION POLICY AND PUBLIC HEALTH	SB (EC)	2		2	75	3
2	277-190802	NUTRITIONAL COUNCELING AND COMMUNICATION	GB (EC)	2		2	75	3
3	277-190803	ENTERAL AND PARENTERAL NUTRITION	SB (EC)	2		2	75	3
4	277-190804	PHYSIOLOGY OF EXERCISE AND SPORTS PERFORMANCE	SB (EC)	2		2	75	3
5	277-190805	QUALITY ASSURANCE	GB (EC)	2		2	75	3
6	277-190806	PROFESSIONAL SKILLS	GB (EC)	2		2	75	3
7	277-190807	FIRST AID	GB (EC)	2		2	75	3
8	277-190808	ENTERPRENEURSHIP	GB (EC)	2		2	75	3
9	277-1908ΠΕ	Bachelor's DIPLOMA THESIS	SD (EC)				225	9
10	277-1908ΠΑ	INTERNSHIP	SD (MC)				525	15
		Total					900	30

10. POSTGRADUATE STUDY PROGRAMS IN THE DEPARTMENT

Two (2) Postgraduate Study Programs are currently offered in the Department of Nutritional Sciences and Dietetics, School of Health Sciences

10.1 Postgraduate study program in “Nutrition and Dietetics”

The objective of the MSc is to provide advanced knowledge in scientific fields that meet the needs of Nutritional Sciences and Dietetics. It is addressed to graduates from a range of Departments related to these scientific fields. Detailed information can be found on the Department's website <https://nutr.ihu.gr/msc-nd/>

10.1.1 History

The Postgraduate Study Program (MSc) "Nutrition and Dietetics" was approved by the Ministry of Education, Research and Religious Affairs and was re-established according to Government Gazette 3468/20-08-2020.

10.1.2 Goals and Objectives of the Postgraduate Study Program

The Postgraduate Program (MSc) "Nutrition and Dietetics" offers three directions:

1. **Mediterranean Diet and Tourism**
2. **Sports Nutrition**
3. **Clinical Dietetics**

The aim of the MSc "Nutrition and Dietetics" is:

- ✓ the provision of high-level scientific training with specialized knowledge that will be applied in the management and design of nutritional interventions at the individual and/or group level
- ✓ the provision of interdisciplinary education in order to improve the ability of students to collaborate with professionals from other disciplines in the fields of health, sports, tourism, and basic research
- ✓ to strengthen research in order to generate new knowledge and promote new and interdisciplinary collaborations in the wider field of Nutrition
- ✓ the creation of a strong background in Nutrition and Dietetics for graduates in other sciences

Graduates of the MSc will be able to fill positions in key sectors of the public and private sector, as well as to work as freelancers, in the development and promotion of research in all fields of Nutrition & Dietetics.

10.1.3 The postgraduate degree awarded

Graduates are awarded a Master's Degree (Level 7 of the National and European Qualification Framework), depending on the specialisation they attended:

1. "Nutrition and Dietetics with specialization in Clinical Dietetics"
2. "Nutrition and Dietetics with specialization in Sports Nutrition"
3. "Nutrition and Dietetics with specialization in Mediterranean Diet and Tourism"

10.1.4 Admissions

The following are admitted to the MSc:

1. Holders of first-cycle degrees of higher education institutions in Greece.
2. Holders of first-cycle degrees from similar institutions in foreign countries. A Diploma of Postgraduate Studies is not awarded to a student whose first cycle degree from a foreign institution has not been recognized by the Interdisciplinary Organization for the Recognition of Academic Qualifications and Information (D.O.A.T.A.P.), in accordance with Law 3328/2005 (A' 80).
3. Members of the categories Special Teaching Laboratory Staff and Special Technical Laboratory Staff, if they meet the requirements of the first subparagraph of par. 1 of Article 34, may be registered as supernumerary and only one per year per MSc, organised in departments of the institution they serve, which is relevant to the degree and the work they carry out in the institution concerned.

10.1.5 Duration of studies

The MSc is offered in two cycles: **Intensive** and **Departmental**.

For the **Intensive Cycle**, the minimum duration for the award of the MSc is two (2) semesters. The maximum duration of the MSc cannot exceed four (4) semesters.

The minimum duration for the award of the MSc in the **Departmental Cycle** is four (4) semesters. The maximum duration of the MSc course may not exceed six (6) academic semesters.

10.1.6 Course schedule per semester

The Study Programs of the MSc "Nutrition and Dietetics", for Intensive and Departmental Cycle of each specialization, are given below. It is not possible to attend courses in a different direction than the one chosen by the postgraduate student, and the teaching hours and language of the Program are in Greek. The total number of credits of the program is 90 ECTS.

Intensive Cycle

1. "Nutrition and Dietetics with specialization in Clinical Dietetics"

1st Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	RESEARCH METHODOLOGY IN NUTRITION	<i>Mandatory Course</i>	30	8
2	NUTRITION INFORMATICS	<i>Mandatory Course</i>	20	6
3	SPECIAL TOPICS IN NUTRITION I	<i>Mandatory Course</i>	30	8
4	PATHOPHYSIOLOGY AND NUTRITIONAL THERAPY I	<i>Mandatory Course</i>	30	8
5	NUTRITIONAL GENOMICS	<i>Mandatory Course</i>	20	6
Total				36

2nd Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	SPECIAL TOPICS IN NUTRITION II	<i>Mandatory Course</i>	30	8
2	PATHOPHYSIOLOGY AND NUTRITIONAL THERAPY II	<i>Mandatory Course</i>	30	8
3	SPECIAL TOPICS IN CLINICAL NUTRITION	<i>Mandatory Course</i>	30	8
4	PRACTICAL CLINICAL INTERNSHIP & THESIS	<i>Mandatory Course</i>		30
Total				54

2. "Nutrition and Dietetics with specialization in Sports Nutrition "

1st Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	RESEARCH METHODOLOGY FOR NUTRITION	<i>Mandatory Course</i>	30	8
2	NUTRITION INFORMATICS	<i>Mandatory Course</i>	20	6
3	SPECIAL TOPICS IN NUTRITION I	<i>Mandatory Course</i>	30	8
4	PATHOPHYSIOLOGY IN SPORTS I	<i>Mandatory Course</i>	30	8
5	NUTRITIONAL GENOMICS	<i>Mandatory Course</i>	20	6
Total				36

2nd Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	SPECIAL TOPICS IN NUTRITION II	<i>Mandatory Course</i>	30	8
2	SPORTS AND NUTRITION	<i>Mandatory Course</i>	30	8
3	PATHOPHYSIOLOGY IN SPORTS II	<i>Mandatory Course</i>	30	8
4	PHYSIOLOGY AND BIOCHEMISTRY OF EXERCISE	<i>Mandatory Course</i>	20	6
5	DIPLOMA THESIS	<i>Mandatory Course</i>		24
Total				54

3. "Nutrition and Dietetics with specialization in in Mediterranean Diet and Tourism "

1st Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	RESEARCH METHODOLOGY IN NUTRITION	<i>Mandatory Course</i>	30	8
2	NUTRITION INFORMATICS	<i>Mandatory Course</i>	20	6
3	SPECIAL TOPICS IN NUTRITION I	<i>Mandatory Course</i>	30	8
4	ELEMENTS OF NUTRITION PATHOPHYSIOLOGY IN TOURISM	<i>Mandatory Course</i>	30	8
5	NUTRITIONAL GENOMICS	<i>Mandatory Course</i>	20	6
Total				36

2nd Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	SPECIAL TOPICS IN NUTRITION II	<i>Mandatory Course</i>	30	8
2	MEDITERRANEAN DIET AND FUNCTIONAL FOODS	<i>Mandatory Course</i>	30	8
3	FOOD QUALITY AND SAFETY MANAGEMENT IN MASS CATERING UNITS	<i>Mandatory Course</i>	20	6
4	TOURIST UNITS' ADMINISTRATION AND MANAGEMENT	<i>Mandatory Course</i>	30	8
5	DIPLOMA THESIS	<i>Mandatory Course</i>		24
Total				54

Departmental Cycle

1. "Nutrition and Dietetics with specialization in Clinical Dietetics".

1st Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	RESEARCH METHODOLOGY IN NUTRITION	<i>Mandatory Course</i>	30	8
2	NUTRITION INFORMATICS	<i>Mandatory Course</i>	20	6
3	SPECIAL TOPICS IN NUTRITION I	<i>Mandatory Course</i>	30	8
Total				22

2nd Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	SPECIAL TOPICS IN NUTRITION II	<i>Mandatory Course</i>	30	8
2	PATHOPHYSIOLOGY AND NUTRITIONAL THERAPY I	<i>Mandatory Course</i>	30	8
Total				16

3rd Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	PATHOPHYSIOLOGY AND NUTRITIONAL THERAPY II	<i>Mandatory Course</i>	30	8
2	NUTRITIONAL GENOMICS	<i>Mandatory Course</i>	20	6
Total				14

4th Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	SPECIAL TOPICS IN CLINICAL NUTRITION	<i>Mandatory Course</i>	30	8
2	PRACTICAL CLINICAL INTERNSHIP & THESIS	<i>Mandatory Course</i>		30
Total				38

2. "Nutrition and Dietetics with specialization in Sports Nutrition ". Total ECTS 90

1st Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	RESEARCH METHODOLOGY IN NUTRITION	<i>Mandatory Course</i>	30	8
2	NUTRITION INFORMATICS	<i>Mandatory Course</i>	20	6
3	SPECIAL TOPICS IN NUTRITION I	<i>Mandatory Course</i>	30	8
Total				22

2nd Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	SPECIAL TOPICS IN NUTRITION II	<i>Mandatory Course</i>	30	8
2	PATHOPHYSIOLOGY IN SPORTS I	<i>Mandatory Course</i>	30	8
Total				16

3rd Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	PATHOPHYSIOLOGY IN SPORTS II	<i>Mandatory Course</i>	30	8
2	NUTRITIONAL GENOMICS	<i>Mandatory Course</i>	20	6
Total				14

4th Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	SPORTS AND NUTRITION	<i>Mandatory Course</i>	30	8
2	PHYSIOLOGY AND BIOCHEMISTRY OF EXERCISE	<i>Mandatory Course</i>	20	6
3	DIPLOMA THESIS	<i>Mandatory Course</i>		24
Total				38

3. "Nutrition and Dietetics with specialization in in Mediterranean Diet and Tourism ". Total ECTS 90

1st Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	RESEARCH METHODOLOGY IN NUTRITION	<i>Mandatory Course</i>	30	8
2	NUTRITION INFORMATICS	<i>Mandatory Course</i>	20	6
3	SPECIAL TOPICS IN NUTRITION I	<i>Mandatory Course</i>	30	8
Total				22

2nd Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	SPECIAL TOPICS IN NUTRITION II	<i>Mandatory Course</i>	30	8
2	MEDITERRANEAN DIET AND FUNCTIONAL FOODS	<i>Mandatory Course</i>	30	8
Total				16

3rd Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	ELEMENTS OF NUTRITION PATHOPHYSIOLOGY IN TOURISM	<i>Mandatory Course</i>	30	8
2	NUTRITIONAL GENOMICS	<i>Mandatory Course</i>	20	6
Total				14

4th Semester

A/A	COURSE TITLE	COURSE TYPE	TEACHING HOURS	ECTS
1	FOOD QUALITY AND SAFETY MANAGEMENT IN MASS CATERING UNITS	<i>Mandatory Course</i>	20	6
2	TOURIST UNITS' ADMINISTRATION AND MANAGEMENT	<i>Mandatory Course</i>	30	8
3	DIPLOMA THESIS	<i>Mandatory Course</i>		24
Total				38

10.1.7 Number of admissions

Graduates of the following fields of study are admitted to the MSc: Nutrition and Dietetics, Health Sciences, Food Science and Technology, Physical Education and Sports Sciences, Agricultural Sciences, Natural and Biological Sciences.

The MSc admits 50 students in both cycles, preferably 25 students in each cycle, with the possibility of deviation. In addition, students may be admitted:

one (1) scholarship holder of the ICF who succeeded in the relevant domestic postgraduate competition in the subject of the MSc and, one (1) foreign scholarship holder of the Greek state, according to Law 3685/148/16-7-2008, article 4, paragraph 3.

10.1.8 The staff

The teaching of the courses is based on the knowledge of the faculty members and cooperating teachers of the Department of Nutritional Sciences and Dietetics. In order to cover the multidisciplinary nature of the field of Nutrition and Dietetics and to ensure the comprehensiveness of the knowledge provided, the Department invites prominent scientists from other universities and other Departments of the I.H.U. to present specialized topics on their research and professional field.

10.2 Postgraduate Study Program in “Cosmetology”

The aim of the MSc is to provide advanced knowledge in scientific fields that meet the needs of the science of Cosmetology to graduates of a number of Departments related to its scientific fields.

10.2.1 History

The MSc in Cosmetology has been approved by the International Hellenic University and the Ministry of Education and Religious Affairs according to the Government Gazette 3886/20-08-2021

10.2.2 Object - Purpose of the Postgraduate Programme

The MSc offers two tracks:

1. Production and Evaluation of Cosmetic Products.
2. Applications of Cosmetology in Dermatology

The aim of the MSc "Cosmetology" is to provide:

- ✓ high-level scientific training with specialised knowledge to be applied in the management and design of cosmetic products
- ✓ interdisciplinary training in order to improve the ability of graduates to collaborate with professionals from other disciplines in the field of health and basic research
- ✓ to strengthen research to generate new knowledge and promote new and interdisciplinary collaborations in the wider field of science

- ✓ to create a strong background in the science of Cosmetology and for graduates in other sciences
- ✓ the appropriate skills to enable graduates to fill positions in key areas of the public and private sector, as well as to work as freelancers, in the development and promotion of research in all fields of the MSc

10.2.3 Postgraduate Degree awarded

Graduates will be awarded a Master's Degree (Level 7 of the National and European Qualification Framework), depending on the specialisation they attended:

- I. "Cosmetology with specialization in the preparation and evaluation of cosmetic products"
- II. 'Cosmetology with specialization in Applications of Cosmetology in Dermatology'.

10.2.4 Categories of Graduates admitted

The MSc is open to graduates of higher education institutions in Greece with a relevant subject matter, as well as to graduates of similar recognized institutions abroad.

10.2.5 Duration of studies

The minimum duration for the award of the MSc is three (3) semesters. The maximum duration of the MSc cannot exceed five (5) semesters.

10.2.6 Course Schedule per Semester

The detailed Program of Studies of the MSc in Cosmetology is given in the table below. It is not possible to attend courses in a different direction than the one chosen by the postgraduate student, and the language of instruction of the Program is in Greek. The total number of credits of the program is 90 ECTS.

Cosmetology with specialization in the preparation and evaluation of cosmetic products

COURSE TITLE	COURSE TYPE	TEACHING (total weeks)	TEACHING (total hours)	ECTS
RESEARCH METHODOLOGY – ELEMENTS OF NATURAL SCIENCES	General Background	13	26	8
ELEMENTS OF DERMATOLOGY AND MICROBIOLOGY	General Background	13	26	8
ENTREPRENEURSHIP AND COSMETOLOGY	Special Background	13	26	7

COURSE TITLE	COURSE TYPE	TEACHING (total weeks)	TEACHING (total hours)	ECTS
INGREDIENTS OF COSMETIC PRODUCTS	Special Background	13	26	7
SYNERGY OF NUTRITION AND COSMETOLOGY IN DERMATOLOGICAL DISEASES	Special Background	13	26	8
INNOVATIVE COSMETICS AND COSMETIC PRODUCTS OF NATURAL ORIGIN	Specialised general knowledge, skills development	13	26	7
COSMETIC PREPARATION AND LEGISLATION	Specialised general knowledge, skills development	13	26	7
QUALITY CONTROL OF COSMETIC PRODUCTS – METHODS OF INSTRUMENTAL ANALYSIS IN COSMETOLOGY	Specialised general knowledge, skills development	13	26	8
MSc's DIPLOMA THESIS / INTERNSHIP	Specialised general knowledge, skills development			30

Cosmetology with specialization in Applications of Cosmetology in Dermatology

COURSE TITLE	COURSE TYPE	TEACHING (total weeks)	TEACHING (total hours)	ECTS
RESEARCH METHODOLOGY – ELEMENTS OF NATURAL SCIENCES	General Background	13	26	8
ELEMENTS OF DERMATOLOGY AND MICROBIOLOGY	General Background	13	26	8
ENTREPRENEURSHIP AND COSMETOLOGY	Special Background	13	26	7
SPECIAL TOPICS IN COSMETOLOGY	Special Background	13	26	7
SYNERGY OF NUTRITION AND COSMETOLOGY IN DERMATOLOGICAL DISEASES	Special Background	13	26	8
INNOVATIVE COSMETICS AND COSMETIC PRODUCTS OF NATURAL ORIGIN	Specialised general knowledge, skills development	13	26	7

COURSE TITLE	COURSE TYPE	TEACHING (total weeks)	TEACHING (total hours)	ECTS
COSMETIC PREPARATION AND LEGISLATION	Specialised general knowledge, skills development	13	26	7
PATHOPHYSIOLOGY IN ANTI-AGING	Specialised general knowledge, skills development	13	26	8
MSc's DIPLOMA THESIS / INTERNSHIP	Specialised general knowledge, skills development			30

10.2.7 Number of admissions

The maximum number of students admitted to the MSc is set at forty (40) per year. Additional students may be admitted:

- ✓ one (1) scholarship holder of the ICF who succeeded in the relevant postgraduate studies competition
- ✓ domestic in the subject of the MSc, and,
- ✓ one (1) foreign scholar of the Greek state, according to Law 3685/148/16-7-2008, article 4, paragraph 3.

In addition to the number of admission, members of the categories Special Teaching Laboratory Staff and Special Technical Laboratory Staff, who are holders of a first cycle degree of the first cycle of studies of an HEI, according to the provisions of par. 8 of article 34 of Law No. 4485/2017

10.2.8 Staff

The teaching of the courses is based on the knowledge of the faculty members and cooperating teachers of the Department of Nutritional Sciences and Dietetics. In order to cover the multidisciplinary nature of the field of Cosmetology and to ensure the comprehensiveness of the knowledge provided, the Department invites prominent scientists from other universities and other Departments of the IHU to present specialized topics on their research and professional field.

11. DOCTORAL STUDIES in the DEPARTMENT

The Doctoral Dissertation (3rd Cycle of Studies, Level 8 of the National and European Qualification Framework) at the Department of Nutritional Sciences and Dietetics of the School of Health Sciences of I.H.U. is based on the Regulation of Doctoral Studies published in the Government Gazette (Government Gazette 3479/21-08-2020).

Eligibility to submit an application

In order to apply for a Ph.D. thesis at the Department of Nutritional Sciences and Dietetics of the School of Health Sciences of the I.H.U., the following is required:

1. A degree from a Greek university or a similar university abroad recognized by the **Hellenic NARIC** in the broader field of Nutritional Sciences and Dietetics or in a related field. The degree must have a grade of '7.0' (seven) or higher. Exceptionally, a grade lower than seven may be allowed by the Departmental Assembly, with supporting documentation.
2. Possession of a Master's Degree in the broader field of Nutritional Sciences and Dietetics from a Greek university or a similar university abroad recognized by the IOATAP or a single and unbroken postgraduate degree of article 46 of Law 485/17. The degree of the Postgraduate Diploma should be:
 - For studies in Greece, greater than or equal to "8.0" (eight).
 - For studies in the UK, greater than or equal to "55%" and for studies in the USA, greater than or equal to "B".
 - For studies in other countries, higher or equal to a 'B' in the USA.
3. Good knowledge of the English language as evidenced by a B2 level certificate according to the ASEP standards. This requirement does not apply to holders of an undergraduate or postgraduate degree in an English language program of study. In the case of candidates who do not hold a certificate, they will be examined by a committee of three appointed by the General Assembly to verify their knowledge of English. In the event of a failure in the examination conducted by the panel of three, the decision on the application of the applicants shall be taken by the Assembly of the Department.

Duration

1. The minimum duration for the award of the Doctoral Degree is three (3) full calendar years from the date of appointment of the Tripartite Advisory Committee and may not exceed six (6) calendar years.
2. For serious reasons, the Doctoral Candidate (Ph.D.) has the right, with a fully documented and justified request, accompanied by the agreement of the supervisor, to request a suspension of studies for a specific period of time. Upon the recommendation of the Doctoral Studies Committee and with a documented decision of the Departmental Assembly, a suspension of studies for a period of two plus one (2+1) years is possible. The period of compulsory military service, as well as the maternity leave provided by law, are automatically considered as a time of interruption of studies, in addition to the above-mentioned period of suspension of studies of the period of two plus one (2+1) years and therefore do not count towards the maximum total time for the preparation of the Doctoral Dissertation.
3. During the period of suspension, the Doctoral Candidate temporarily loses the rights and benefits provided for under Law 4485/2017. The suspension may be terminated upon the Doctoral Candidate's request for re-registration to the Assembly of the Department. At the end

of the approved suspension, the Doctoral Candidate must apply for re-registration to the Department.

4. In case of exceeding the duration of the study, the Assembly of the Department may decide to withdraw or continue the studies, following a reasoned request of the Doctoral Candidate (D.C.).

5. The three-member Doctoral Studies Committee (DSC) may request the Departmental Assembly to change the language of the thesis.

12. SERVICES and STUDENT WELFARE OFFICE

12.1 European Programs Office (Erasmus)

The aim of the Department is to link the institution and develop collaborations with similar educational institutions in Europe and other countries at undergraduate and postgraduate levels. In the framework of the Erasmus+ program, collaborations with European institutions are developed in actions such as student mobility, mobility of teachers for short-term teaching, preparatory visits, the European system of transfer of academic units, intensive programs, and development of curricula, together with other institutions. Through the Erasmus Program, students of the Department have the opportunity to carry out part of their studies in one of the partner institutions of the European Union.

12.2 Library

The library of the Alexander Campus of the I.H.U. is located in the main building of the campus. It has a large number of books, as well as a subscription to international scientific journals. To a large extent, the need for access to international literature is now covered through the Hellenic Academic Libraries Link (Heal-Link) and the databases it supports (Web of Knowledge, Scopus). In this way, faculty members, researchers, and students are given the opportunity to access electronically a large number of academic publications that fully cover the Department's fields of knowledge.

12.3 Student Health Care Service

The Foundation operates the corresponding department with the aim of providing health care, but also psychological support to students.

12.4 Network Operations Center (NOC)– Electronic Services

The Network Operations Center (NOC) of the Alexander Campus of the I.H.U. in Sindos, Thessaloniki is responsible for the proper operation of the network and computing infrastructure and electronic services of the Alexander Campus as well as any support to the users of the respective services.

Staff and students are entitled to obtain an Institutional User Account through which all the above services are provided. Detailed information on the IT and telecommunications services provided at the Alexander Campus is available on the Network Operations Centre website.

13. INTERNATIONAL DIMENSION and PARTNERSHIPS

The Department is an active member of the EFAD-Education Association Members (Network of Associated Universities of the European Federation of Dietetic Associations), a network of Universities with degree programs in nutrition and dietetics from all over Europe, with the aim of cooperating to develop curricula that will effectively respond to the needs of the labour market at an international level.

The range of research collaborations is wide and there are even more opportunities for future collaboration with national and international institutions. Indicatively, only for the period from 2019 onwards, the Department participates in projects with 198 other institutions, of which 38 are from Greece, 12 from Italy, 11 from Armenia, 10 from Germany, 9 from Portugal, and the remaining 103 from 29 other countries (Belgium, France, Russia, United Kingdom, Uzbekistan, etc.).

The faculty members have coordinated over 90 research projects in their capacity as scientific supervisors and participated in the main research team of another 213 projects. Since 2019, 41 research projects with national or European funding have been active. The content of the active projects shows that the research activity is oriented towards the fields of tackling childhood obesity; analysis of personalised nutrition data; recording of dietary needs and preferences of specific population groups; development of interventions for care, prevention, and therapeutic nutrition; bioactive food content; highlighting characteristics of traditional foods; functional foods; environmental and food safety assessment.

14. REFERENCE to the DEPARTMENT and UNIVERSITY REGULATIONS

For the proper functioning of the Department and the information of students and the general public, the Department applies the following Regulations, the full analysis of which is available on the Department's website.

1. Internal Regulations of the International Hellenic University
2. Regulations for the Operation of the Program of Studies
3. Regulations for the Execution of Theses
4. Internship Regulations
5. Erasmus Mobility Regulations
6. Regulations for the functioning of the Academic Advisor Institution
7. Regulation for the Operation of the Student Complaints and Complaints Mechanism
8. Regulation of Doctoral Dissertation

15. APPENDIX: DETAILED COURSES OUTLINE

SYLLABUS WEBSITE (URL): [Undergraduate Studies – Department of Nutritional Sciences & Dietetics \(ihu.gr\)](http://UndergraduateStudies-DepartmentofNutritionalSciences&Dietetics(ihu.gr))

15.1 1st Semester Courses

277-190101	INTRODUCTION TO NUTRITIONAL SCIENCES
277-190102	FOOD SCIENCE
277-190103	GENERAL AND INORGANIC CHEMISTRY
277-190104	CELL BIOLOGY
277-190105	INFORMATICS
277-190106	FOOD MICROBIOLOGY
277-190107	HUMAN GENETICS

15.1.1 INTRODUCTION TO NUTRITIONAL SCIENCES (277-190101)

(1) SYLLABUS

Basic principles of nutrition. The history of diet. The influence of the written and oral tradition. The history of nutrition as a science. Evolution and achievements. International organizations. Factors which affect the diet of humans (psychological, socio-economic, cultural, etc.). Characteristics of a healthy nutrition. Energy balance, exercise and body weight. The role of the nutrients in human health. Food as source of nutrients. Diet and its role in the cycle of life. Dietary guidelines for maintaining health and preventing disease. Dietary treatment under the treatment of diseases. Technology and nutrition.

(2) LEARNING OUTCOMES

The course aims to familiarize students with the basic principles of nutrition and dietetics, nutrients and their biological role as well as the dietary sources of nutrients. It also aims to help students understand the influence of socio-economic factors on food intake and to familiarize themselves with the basic methodology of nutritional research. Upon successful completion of the course, the student will have knowledge of the dietary sources of macro and micro nutrients, the biological role of nutrients, the consequences of their deficiency and their overabundance. Finally, they will be able to calculate the energy and nutrient requirements of an individual and understand the concept of nutrient requirements as well as recommended daily values of nutrients and use food composition tables to analyse the nutritional intake of an individual.

15.1.2 FOOD SCIENCE (277-190102)

(1) SYLLABUS

Introduction to food science. Food of animal and plant origin. Food nutrients (proteins, sugars, lipids, vitamins, minerals, natural pigments, toxic compounds). Food groups (meat, milk, fish, eggs, fruit and vegetables, cereals, pulses, alcoholic beverages, and seasonings). Food spoilage

causes (physical, chemical, biological). Possible alterations of their nutrients. Possible changes in fruit and vegetables, meat, poultry, fish, milk, cereals and their products, pulses, beverages and seasonings).

Methods of food and preservation of food (dehydration, low temperature, high temperature use, fermentation, irradiation, use of additives, special processing methods, new technologies). Effect of preservation methods on food quality. Food packaging. Packing materials and interactions with food. Advances in food packaging.

(3) LEARNING OUTCOMES

Understanding the composition of animal and plant foods, possible spoilages which may occur and the causes of the deterioration. Analysis of the major methods of food processing, which are also maintenance methods. Understanding the effect of processing methods and packaging on the quality and nutritional value of food.

15.1.3 GENERAL AND INORGANIC CHEMISTRY (277-190103)

(1) SYLLABUS

Theory

Introduction to chemical science. Classification and States of matter. Scientific calculations. Individual theories. Individual and Mass number. The concept of mol. Chemical bonds and Intermolecular forces. Nomenclature of inorganic compounds. Writing reactions. Categories of reactions. Properties of gases, solids and liquids. Thermochemistry. Solutions and colloidal dispersion systems. Chemical kinetics and chemical balance. Dimension and electrolyte ionization. pH-pOH. Elimination reactions, common ion effect, buffer solutions.

Laboratory work

Safety regulations in the Chemistry Laboratory. Nomenclature of glassware and equipment. Weighing. Determination of Density. Qualitative data analysis. Solutions. Prosthetic Solutions Properties. Calorimetry. Chemical Equilibrium. Chemical Kinetics. Titration. Measurement of pH. Ultraviolet - Visible Spectroscopy. Infrared Spectroscopy

(2) LEARNING OUTCOMES

The acquisition of basic knowledge of Chemistry and the understanding of chemical phenomena in order to be applied seamlessly to the following semesters' classes. Understanding the relationship between microcosm and macrocosm, and the dependency that exhibit the material properties from the structure and the interactions of their molecules.

15.1.4 CELL BIOLOGY (277-190104)

(1) SYLLABUS

CHEMICAL COMPONENTS OF CELLS. The elements C, H, O, N. Macromolecules. Molecular organisation of the cell. The chemical properties of Water.

THE EUKARYOTIC CELL. Cell Theory. Membrane structure: the lipid bilayer, membrane proteins. Transport across cell membrane. Transporters and their functions. Ion channels and the membrane potential. Intracellular Compartments: Nucleus, Ribosome, Endoplasmic reticulum, Golgi apparatus, Lysosome, Peroxisome, Cytoskeleton Mitochondria. Protein transport. Secretory pathways. Cell Signaling. Examples of diseases associated with dysfunctions of cellular

organelles. CELL- DIVISION CYCLE. Cell cycle control system, G1, S, G2 phases, Mitosis, Cytokinesis, Cell Death.
PROKARYOTIC CELL, VIRUSES, PRIONS.

(2) LEARNING OUTCOMES

The course provides basic knowledge of cell biology. By the end of the course, students will be familiar with: a) the cell structure, function and behavior and b) The subcellular organelles and their interactions to organize and maintain cellular function. Upon successful completion of the course the student will be able to understand the reasons why we get sick, grow old and die.

15.1.5 INFORMATICS (277-190105)

(1) SYLLABUS

Theory

Introduction to Informatics. Types and mode of operation of computers and electronic devices. Identification of user needs and equipment selection criteria. Data and information, collection, recording and storage processes. Operating systems and software/applications. Input/output devices, sensors, new technologies for data input and output. Communication and networking. World Wide Web, web applications and technologies. Uses of technology in health sciences. Digital security, ethics and privacy. Contemporary issues in information science

Laboratory work

Introduction to Windows and other operating systems, basic principles of a windowed environment, file creation and management, networking. Introduction to basic IT software (e.g. Office tools) and presentation of their features. Presentation and use of open-source/free software. Presentation of online solutions and workflow, versioning & backup tools. Creating and editing text documents (MS Word). Working with columns, indents, margins, pages. Use of proofreading tools, tables. Document management and printing. Examples of application of word processing in Nutrition (diet plan). Creating and editing spreadsheets (MS Excel). Basic principles of operation, creating tables and graphs, functions and calculation tools. Examples of the application of spreadsheets in nutrition (analysis of macronutrients and dietary intake).

(3) LEARNING OUTCOMES

The aim of the course is the training of students through the presentation, study and practice of a number of IT topics, such as the operation of computers and mobile/digital devices, modern technologies for data input, output and storage, sensors and other modern devices and technologies for data collection and recording, communication networks (including the World Wide Web) and Social Networks. The course also covers the general use of Information and Communication Technologies (ICT), not only in the field of Nutrition, but also in related areas such as health, education, e-government, healthcare, etc. In the laboratory works, examples of practical application of informatics in the field of Nutrition are given and students have the opportunity to become familiar with basic software such as word processor and spreadsheet. Upon successful completion of the course, the student will be able to: Understand the basic and critical features of a computer, a mobile device and their operating systems and applications, respectively. Describe the relationship between data and information and the processes of collecting, processing, and producing information. Explain and analyze the purpose of web technologies and their use in the Nutritional Sciences. Understand and describe digital security risks.

15.1.6 FOOD MICROBIOLOGY (277-190106)

(1) SYLLABUS

The most important microorganisms in food microbiology (bacteria, fungi, yeasts) and their morphological, cultural, physiological and biochemical characteristics. Reproduction, relation to food and public health.

Nutrition of microbes, their food types and influence of physical and chemical factors on microbial growth and activities (temperature, pH, radiation, pressure). Growth of microbes (number of divisions, generation time, growth rate, age of bacteria, growth curve and phases).

Viruses and viral infections.

Natural sources of food contamination (microbiota of plants, animals, soil, water, air), principles of food preservation (heat, cold, anaerobic conditions, etc.). Trophogenic and waterborne bacterial diseases (foodborne and food poisoning - prevention measures). Eukaryotic pathogens: fungal and parasitic diseases.

Natural sources of contamination of public health premises, the development of resistant microbes.

Probiotics - Prebiotics

Laboratory work

Microbiological techniques: Identification of the most important microorganisms for food.

Microbiological examination of: a) water, b) food establishment staff, c) hospital staff and premises. Microbial enumeration by standard method.

(2) LEARNING OUTCOMES

The course provides basic knowledge of Food Microbiology. At the end of the course students will acquire basic knowledge of food microbiology, with the focus on the relationship of microbes with food and humans. Upon successful completion of the course the student will be able to: a) know the concepts, content and scientific vocabulary of Food Microbiology b) will have an adequate knowledge of methods used for the microscopic analysis and classification of microorganisms c) will have an adequate knowledge of the most important microorganisms for food (risks and benefits) and d) will have an adequate knowledge of food hygiene and safety requirements and the corresponding actions to be taken.

15.1.7 HUMAN GENETICS (277-190107)

(1) SYLLABUS

The molecular basis of heredity. Structure and function of DNA. Structure and Function of genes. Gene inactivation and genomic mapping. Human genome. From gene to protein. Genetic diversity. DNA polymorphisms. Effects on gene expression. Mutations. DNA repair.

Mendelian inheritance and patterns of inheritance. Population genetics and multifactorial inheritance. Epigenetics - Relationship of environmental factors such as diet, alcohol consumption and smoking to genetic predisposition to disease.

Applications of genetics in Nutrition. Examples of single-gene, multi-gene and multifactorial diseases such as obesity and metabolic disorders. Family History as a Risk Assessment Tool - Pedigree.

(2) LEARNING OUTCOMES

The course provides basic knowledge of Human Genetics (Mendelian and Molecular genetics). By the end of the course, students will: a) be able to know the concepts, content and scientific vocabulary of Human Genetics, b) be familiar with the mechanisms of gene expression, the flow of genetic information and its transmission, and c) understand the reasons for the diversity of individuals and the importance of pedigrees in the prevention and treatment of diseases.

15.2 2nd Semester Courses

277-190201	FOOD ADDITIVES AND LEGISLATION
277-190202	FUNCTIONAL FOODS
277-190203	ORGANIC CHEMISTRY
277-190204	ANALYTICAL CHEMISTRY AND INSTRUMENTAL ANALYSIS
277-190205	HUMAN PHYSIOLOGY
277-190206	FOREIGN LANGUAGE - NUTRITION TERMINOLOGY

15.2.1 FOOD ADDITIVES AND LEGISLATION (277-190201)

(1) SYLLABUS

Entrance of toxic substances in biological systems, distribution and bio modifications. Bioaccumulation. Bio magnification. Degradation. Indicators and toxicity categories. Interactions of toxic substances and the effects of their entry in living organisms and humans. Definition and origin of prosthetic materials. Acceptable daily intake. Basic requirements and implementing legislation of food additives. Classification and labeling of additives. Substances that are not considered as additives. Categories of additives: antioxidants, preservatives, dyes, thickeners, stabilizers, gelling agents, stiffening agents, emulsifiers, emulsifying salts, foaming and defoaming agents, bulking agents, fillers and enhancers flour, coating agents, sequestering agents, anti-caking agents, odor and flavor substances, humectants, dissolution carriers, food packaging gases and propellants. Enhancing the nutritional value of food. Special diet foods. Food dietary and dietary for special medical purposes. Nutritional supplements. The position of supplements in the population. Identification and control of supplements. Functional foods. Labelling of nutrients. Labelling of food ingredients. Nutrition and health claims. Authorization procedure and labelling of health claims. Structure of the Food and Drink Code. Conditions and marketing approval process of a new product.

(3) LEARNING OUTCOMES

The approach of the basic principles of toxicology and understanding of toxicological testing prior to the authorization of additives. The acquaintance with the functional characteristics of the various categories of additives and legislation governing them. Understanding the marketing rules different food categories (with enhanced nutritional value, dietary, special diet, functional, nutritional supplements), and the rules relating to the labeling of nutrients, nutrition and health claims and other information. Understanding the Food and Drink Codex structure and its function.

15.2.2 FUNCTIONAL FOODS (277-190202)

(1) SYLLABUS

Introduction to Functional Foods: Definitions, categorization, role, development. Guidelines of the European Food Safety Authority (EFSA) on functional foods and current legislation. Nutrition and health claims and labelling requirements. Functional food approval procedures. Active (functional) ingredients of functional foods and their action. Examples of functional foods (margarines with plant sterols, functional fish with enhanced protective properties against

cardiovascular diseases, foods and drinks with dietary fibre, foods with lycopene, acidified dairy products, etc.). Reference to products on the market.

Design of new functional foods and approval process. Key stages of the new product development process. Model design and development. Evaluation of a new product. Scale up in production. Market entry.

Vitamins and mineral macro and micro elements. Their role in health. Dietary fibre. Effect on the prevention of diabetes and cardiovascular disease. Plant sterols and stanols. The effect of phytosterols in reducing the risk of cardiovascular disease. Omega fatty acids. The effect of monounsaturated and polyunsaturated fatty acids on health. The beneficial effects of olive oil and fish consumption on health.

Prebiotics and probiotics. Probiotic foods and prevention of degenerative diseases. Flavonoids and phytoestrogens. Antioxidant, anti-inflammatory, anti-cancer activity.

Functional Foods: Trends and perspectives in modern reality: Superfoods: recent data on their role in disease prevention (pomegranate, blueberry, cranberry, tea, goji berry, etc.). Novel foods, Nutraceuticals and Genetically Modified Foods.

Functional foods in the food industry: microencapsulation of bioactive ingredients, nanotechnology, cyclodextrin technology, utilisation of industrial by-products as functional ingredients. Risks from improper use, production and consumption of functional foods.

Modern nutritional considerations dictating the design of new food products. Basic principles and concepts related to research for the development of innovative food products. Research planning, research program design, execution.

The legislative framework for novel food products. - Innovative food products: Unconventional sources of protein and their use in various foods. Hydrolysed proteins. Specific products containing hydrolysed proteins.

Recovery of raw materials (proteins, carbohydrates) from food industry waste and their use in food. Utilisation of whey. Soya and its products. Surimi, its production technology, its products. Sugar substitutes, sweetener products. Fat substitutes, low fat content products.

(2) LEARNING OUTCOMES

The aim of the course is to familiarize students with the cutting-edge field of functional foods, which is one of the aspects of innovation in Food Science and Human Nutrition and with the new data leading to the transition from traditional foods to neophyte products and innovative technologies. It also aims to present the most representative points of the current legislation on functional foods and to describe the mode of action of their functional ingredients. On successful completion of the course, students are expected to have an understanding of the importance of functional foods in nutrition and health prevention, so that they can integrate them appropriately into the dietary patterns they are expected to formulate as professionals, and to have an appreciation of the importance of innovation in the development of new products. They are also expected to become familiar with the process of developing new products, in particular products using raw materials from unconventional sources or containing new ingredients.

15.2.3 ORGANIC CHEMISTRY (277-190203)

(1) SYLLABUS

Introduction to Organic Chemistry. Classification and Nomenclature of Organic Compounds. Syntactic isomerism - Geometric isomerism. Stereochemistry - Stereoisomerism. Mechanisms of

Organic Reactions of Alkanes, Alkenes, Alkynes, Alkadienes, Alkyl halides, Alcohols, Ethers, Aldehydes, Ketones, Carboxylic Acids, Esters, Amines and Phenolic Compounds.

Laboratory works

Classification, use and characteristics of organic solvents. Crystallization - Recrystallization. Extraction of an aqueous solution with an organic solvent. Distillation (simple, fractional - water vapor). Thin-layer chromatography.

Sublimation. Reactions of Alcohols - Ethers. Reactions of Aldehydes - Ketones. Reactions of Sugars. Acid Reactions

Ester reactions - Esterification – Saponification. Use of Spectroscopy to clarify the structure of organic compounds. Preparation of Emulsions.

(2) LEARNING OUTCOMES

The acquisition of basic knowledge of organic chemistry, such as nomenclature and isomerism, the ability to understand simple organic reactions and the rules governing them. Understanding the classification of organic compounds into homologous series and the labelling of the main ones found in foods. In the laboratory part of the course the connection between theory and practical application of knowledge will be achieved, learning basic processes of organic chemistry as well as techniques for the separation and extraction of organic compounds. Upon successful completion of the course, students will be able to recognize and name organic compounds, and know the characteristic reactions of organic compounds according to their structure and characteristic group. The course provides students with the necessary skills to identify and predict the behaviour of organic compounds occurring in the body and food, allowing a better understanding of the interaction of nutrients, foods and drugs and the reactions of the human body.

15.2.4 ANALYTICAL CHEMISTRY AND INSTRUMENTAL ANALYSIS (277-190204)

(1) SYLLABUS

Analytical Methods in food science: classical methods, instrumental analysis. Ingredient concentration (physical units, chemical units). Protocol of an analytical method (sampling, pre-treatment and selective isolation of micronutrients and macronutrients, method validation, analysis of real samples).

Evaluation of analytical data: errors and statistical treatment of analytical data (accuracy, reproducibility, fidelity)

Method selection: Classical Methods: weighted analysis and food applications, weak acid-base volumetric analysis, neutralization, volumetric curves, precipitation volumetric measurements, complexometry.

Instrumental Analysis: measurement quantification techniques (direct technique, reference curve technique, known addition technique, internal standard technique). Least squares method. Errors and significant digits. Detection Limits (LOD) and limits of quantification (LOQ) (statistical analysis of results). Significance tests and quantification in instrumental analysis

Potentiometry, Coulometry. Visible-ultraviolet spectrophotometry, infrared spectrophotometry, fluorimetry, flame photometry - atomic absorption and emission, liquid and gas chromatography, mass spectrometry. Principles of methods and applications in the determination of micronutrients and macronutrients.

Laboratory work

Determination of moisture and total solids

Determination of acidity of juice and lactic acid of milk by titration
Determination of hardness in drinking water
Determination of ascorbic acid by spectrophotometry, measurement of unknown juice sample
Spectrophotometric determination of caffeine in coffee and beverage samples. Application of a pretreatment protocol
pH measurement of acid and alkaline foods
Determination of metals in Bunsen burner
Determination of fats and proteins
Chromatographic study and separation of food pigments

(2) LEARNING OUTCOMES

Upon successful completion of the course, students will be able to know: a) the basic principles of quantitative analysis, b) the principles of operation of the most important methods of instrumental analysis used in the quality control of food and water samples.

15.2.5 HUMAN PHYSIOLOGY (277-190205)

(1) SYLLABUS

Basic principles of cell physiology: Cells, tissues, systems and homeostasis, Energy sources, Transport across the cell membrane, chemical signals (cellular receptors).

Physiology of the cardiovascular: Volume and composition of blood, Plasma components, Red and white blood cells, Immune responses, Platelets and haemostasis. Anatomical elements of cardiovascular, Contractility of the heart, Cardiac cycle, Cardiac output, Blood pressure control, Control of local blood flow, Capillary function, Venous system, Lymphatic blood flow and exercise.

Respiratory physiology: exercise and respiration, gas exchange during exercise, the control of respiration during exercise, O₂ debt, cellular respiration, energy exchange and rate of metabolism.

Physiology of the kidneys: Body fluids and their distribution, Useful anatomical elements, Glomerular filtration, filtrate modification, renal clearance, urination, other renal functions, fluid and electrolyte balance, acid-base balance.

Physiology of neuromuscular: Anatomical features and organization of neurons, Conduction and neurotransmission, Control of motor function, Autonomic nervous system.

Physiology of the endocrine glands: basic principles of function, hypothalamus and pituitary functions, thyroid function, hormonal regulation of Ca⁺² ions, functions of the adrenal cortex and medulla.

Physiology of reproduction: Sex development, male reproductive system, sexual act, female reproductive system, pregnancy, childbirth and lactation, physiology of the newborn.

(2) LEARNING OUTCOMES

Knowledge of how the systems of the human body work and how they work together for homeostasis is essential for a Dietitian to understand the effect of diet on homeostasis. The course teaches the anatomy of the body, the basic principles of cellular physiology and the mechanisms of homeostasis in the body systems most directly related to diet. The aim of the laboratory part is to practice in fields, such as: the study of preforms and organ identification, microscopic observation at the cellular and tissue level, substance exchange, measuring cell

density in solution, measuring the concentration of substances in blood, interpreting haematological analyses, measuring pulse and blood pressure, methodology of collecting, analysing and presenting experimental data, writing technical reports, etc. On completion of the course the student will: a) know the anatomy and function of important organs; b) have knowledge of organ physiology at the cellular level; c) know the basic homeostatic mechanisms of the cardiovascular and other systems under the influence of specific conditions (exercise, diseases, eating disorders, etc.); d) be able to apply methods of analysis of organ function.

15.2.6 FOREIGN LANGUAGE - NUTRITION TERMINOLOGY (277-190206)

(1) SYLLABUS

Texts on the science of nutrition and dietetics, including: Nutrition during pregnancy, childhood, adulthood and older age. Food allergies. Nutrition and sport. Diet and medication. Nutrition and disease prevention. Nutrition and Cancer. Diet and hypertension. Diabetes. Cholesterol and Triglycerides. Conducting an application and a CV in a foreign language. Reading comprehension questions and exercises. Lexical exercises for learning the terminology. Grammar exercises on the material covered in previous semesters. Essay writing related to nutrition and dietetics. Traceability theme through audiovisual systems.

(2) LEARNING OUTCOMES

Acquiring the ability to read, communicate and attend lectures in a foreign language, on topics related to nutrition and dietetics.

15.3 3rd Semester Courses

277-190301	NUTRITIONAL ASSESSMENT-DIET PLAN
277-190302	PSYCHOLOGY AND NUTRITION
277-190303	PATHOPHYSIOLOGY
277-190304	FOOD TOXICOLOGY
277-190305	INTRODUCTION TO BIOSTATISTICS
277-190306	INTRODUCTION TO BIOCHEMISTRY
277-190307	RESEARCH METHODOLOGY
277-190308	FOREIGN LANGUAGE

15.3.1 NUTRITIONAL ASSESSMENT-DIET PLAN (277-190301)

(1) SYLLABUS

How to take a Medication History: personal health history and family health history.

Introduction to Nutritional Assessment: 24-hour recall, food log (with or without weighing), design and use of food frequency questionnaires.

Analysis and assessment of dietary intake of macronutrients and micronutrients.

Assessment of the validity of dietary intake methods.

Body composition: measurement and assessment of weight, height, body mass index, and skin aspects.

Use of new technologies such as bioelectrical impedance (BIA), dual-energy X-ray absorptiometry (DXA) and ultrasound in nutritional assessment.

Haematological, biochemical and clinical indicators: Evaluation of laboratory and clinical indicators associated with disease risk (e.g., anemia, osteoporosis, dyslipidemia)

Principles of diet plan formulation based on nutritional assessment.

(2) LEARNING OUTCOMES

The course aims to familiarize students with the methods of assessing the nutritional status of an individual throughout the life cycle (pregnancy, breastfeeding, infant, child, adult and elderly) or a group of individuals or population. It also aims to train students in the use of individual techniques and tools for the accurate assessment of nutritional status such as: (a) medical history; (b) dietary intake and dietary habits; (c) assessment of physical activity and energy expenditure; (d) assessment of energy balance; (e) anthropometric and body composition indicators; (f) haematological and biochemical indicators; (g) assessment of psychological and environmental parameters; (h) assessment of nutritional behaviour

15.3.2 PSYCHOLOGY AND NUTRITION (277-190302)

(1) SYLLABUS

Introduction to Psychology. Ethics and methodology in psychology.

Cognitive Behavioural Approach: theory and practice. Cognitive distortions. Cognitive Functions I: sensation, perception, attention. Cognitive Functions II: learning, learning skills, memory,

forgetting, representation, language and thinking. Social Psychology: social cognition, social perception, social performance, social influence.

Food intake and regulation disorders. Feeding disorders and food intake: clinical assessment and treatment

(2) LEARNING OUTCOMES

The aim of the Psychology and Nutrition course is to provide the student with knowledge to: (a) assess and manage dietary situations with empathy and individualization under a framework of understanding and emotional exploration, (b) be cognitively and emotionally enhanced to become able to manage oneself successfully within the demanding environment of managing nutrition issues, (c) offer insights and reflection around issues related to the processing of cognitive functions such as intelligence, cognitive distortions, and (d) offer insights around issues related to eating disorders.

15.3.3 PATHOPHYSIOLOGY (277-190303)

(1) SYLLABUS

Health and disease. Diagnostic criteria. Medical history. General causes of diseases. Transmission modes. Immunity. Hypersensitivity reactions (anaphylaxis, orronosia, allergy). Infectious diseases. Viruses. Infestations. Fungal infections. Diseases of the respiratory system (bronchitis, pneumonia, bronchial asthma, lung tuberculosis). Diseases of the joints, bones and the collagen (rheumatic diseases, gouty arthritis, rheumatoid arthritis, osteoarthritis). Osteoporosis, osteomalacia. Lupus erythematosus, dermatomyositis, vinegary polyarthritis). Diseases of the endocrine glands (thyroid, parathyroid, adrenal, pituitary). Urinary tract disease (nephritis, pyelonephritis, urolithiasis, cystitis). Diseases of the liver (hepatitis). Skin conditions. Blood Diseases (hemoglobinopathies, leukemias, bleeding, blood clotting disorders). Neoplasms benign, malignant, etiology, early diagnosis, age effects, diagnosis, treatment). Neurological disorders (epilepsy, cognitive dementia, Parkinson's disease, muscle diseases and motor neuron, multiple sclerosis). Mental disorders and behavioral disorders.

(2) LEARNING OUTCOMES

The aim of the course is to provide students with knowledge about the aetiology, genesis and physiology of diseases and to develop a background of knowledge that will enable them to develop nutritional interventions for the prevention and treatment of diseases. Emphasis will be placed on groups of diseases associated with nutritional deficiency or excess and diseases requiring specific nutritional intervention (preventive or therapeutic). Upon completion of the course, the student will have specialized knowledge and will have developed skills useful for nutritional support for disease prevention and/or treatment.

15.3.4 FOOD TOXICOLOGY (277-190304)

(1) SYLLABUS

Principles of toxicology. Dose-response curve. Phases of Toxic Action. Toxicity Assessment. Food Risk Assessment and Management: HACCP system. Toxicokinetics of xenobiotics in the human body: Exposure. Absorption. Distribution. Bioconversion. Excretion. Storage. Toxicodynamics of

xenobiotic in the human body: Stages of toxicity manifestation at molecular, tissue, and organismal levels. Molecular targets. Cellular dysfunction. Loss of cellular homeostasis. Toxic cell damage. Mechanisms of repair at cellular and tissue level. Examples: Oxidative stress - Antioxidant enzymes and food components. Chemical Carcinogenesis. Reversibility of toxic effect. Toxicant interactions. Food Allergy-Tolerance.

Categories of Toxic Substances: Endogenous Natural Toxins, Toxins of Bacteria, Cyanobacteria, Fungi, Phytoplankton, Fish, Plants. Genetically modified foods. Creation of toxic substances during food processing. Environmental pollutants. Residues-Residues, Food Additives.

(2) LEARNING OUTCOMES

The course provides basic knowledge of Food Toxicology. At the end of the course students will:

a) Acquire basic knowledge about the harmful effects of various substances on humans, e.g. toxic substances found in food as endogenous components, as exogenous factors from the environment, as products of interaction during the food processing and as food toxins of microorganisms and b) Understand the impact of toxic substances in the body, symptoms and ways to avoid or prophylaxis of intoxication

15.3.5 INTRODUCTION TO BIOSTATISTICS (277-190305)

(1) SYLLABUS

Collection, organization, analysis, interpretation, and presentation of data

Descriptive statistics

Normal distribution

Hypothesis testing

One-sample parametric tests

Two-sample parametric tests

Analysis of variance

Correlation coefficient

Relationship between qualitative variables

Non-parametric tests

(2) LEARNING OUTCOMES

The aim of the course is to train students through presentation, study and practice in the main statistical methods. Within the course, the student is taught how to collect data, how to process and describe data effectively, and how to analyze data to obtain useful conclusions. Within the course, special emphasis is placed on understanding the statistical analysis through (a) formulating research questions from the field of nutrition and (b) processing the data using the relevant mathematical tools (formulas and tables) without the use of computer-based statistical analysis software. Upon successful completion of this course, the student will be able to select the appropriate statistical test for data analysis.

15.3.6 INTRODUCTION TO BIOCHEMISTRY (277-190306)

(1) SYLLABUS

Chemical composition and structure of cells - bacterial cells, eukaryotic cells, animal cells, plant cells. Amino Acids. Peptide bond. Proteins - operations, solubility, identification, structure and

denaturation of proteins. Enzymes - cofactors, coenzymes and prosthetic groups. Ablation strategies. Kinetics of enzymatic reactions, effect of pH, temperature. Enzyme inhibition. Allosteric enzymes. Strategies regulation of enzymes and proteins. Carbohydrates, structure and nomenclature of carbohydrates. Simple sugars reactions of simple sugars. Oligosaccharides and polysaccharides. Lipids, fatty acids, tri-acyl glycerols, phospholipids, glycolipids.

Vitamins. Discrimination based on solubility in water. Vitamins – pro-vitamins - compounds with vitaminic action. Losses of vitamins. Functions of vitamins. Cell membranes and transmembrane transport. Lipid bilayer. Membrane transport (sodium-potassium pump). Transfer with vesicles. Cell communication - hormones. Signal transfer. Endocrine communication. Paracrine communication. Autocrine communication. Neuronal communication. Contact dependent on contact. Molecular signal transduction mechanisms. Hormones - insulin, glucagon - epinephrine.

Laboratory work

Determination of amino acid: ninhydrin reaction. Free amino acids and absorption in the UV.

Determination of protein: biuret reaction. Reaction and absorption in the UV. Reaction FOLIN – CIOCALTEU. Protein separation with distilled water and salt solutions. Extraction - denaturation of proteins.

Carbohydrates: Study of the structure of glycogen. Laboratory techniques in biochemistry: Chromatography TLC. Gel filtration chromatography. Gas chromatography.

(2) LEARNING OUTCOMES

At the end of the course, students will be able to understand the characteristics and basic properties of biological molecules (e.g. proteins, enzymes, carbohydrates, lipids, vitamins), their role in the function of life and their importance as components of the diet of all living organisms. They will also be trained in methods by which amino acids, proteins and other biological molecules such as fatty acids in food can be detected, separated and quantified.

15.3.7 RESEARCH METHODOLOGY (277-190307)

(1) SYLLABUS

Theory

Ethics in Scientific Research.

Principles of Research Methodology.

Design of a research project. Conference evaluation criteria.

Criteria for evaluating scientific journals and articles. Scientific databases.

Structure of a Research Paper.

Structure of a Review Paper.

Writing a Review Paper. Conference Paper Writing.

Writing an article in a Scientific Journal.

Presentation of Oral and Written Work at a Conference.

Laboratory Work

Databases of Scientific Articles.

Use of software/applications for writing a Scientific Article.

Use of software/applications for the presentation of a Scientific Article.

Use of bibliography software.

(2) LEARNING OUTCOMES

Familiarization of students with access to scientific literature in nutrition and dietetics, writing an essay and presenting it to an audience. Upon successful completion of the course, the trainees will: a) Know the basic design of a research paper; b) Understand the ethical issues in research; c) Be able to identify and synthesize scientific articles; d) Know the basic principles of writing and presenting scientific papers.

15.3.8 FOREIGN LANGUAGE (277-190308)

(1) SYLLABUS

Texts on the science of nutrition and dietetics. Reading comprehension questions and exercises. Lexical exercises for learning the terminology. Grammar exercises on the material covered in previous semesters. Essay writing related to nutrition and dietetics.

(2) LEARNING OUTCOMES

Acquire fluency in reading, communicating, and attending lectures in a foreign language on topics related to the science of nutrition and dietetics. Increase in vocabulary (medical, technical, and scientific terms) and selection of appropriate expressions for scientific discussions. Parallel objectives of the course: a) To familiarize students with authentic texts related to the subject of their studies, b) To help in the effective use of foreign literature related to nutrition, during their studies, c) To equip students with the ability to produce written and oral speech in foreign language and terminology.

15.4 4th Semester Courses

277-190401	NUTRITION DURING PREGNANCY AND CHILDHOOD
277-190402	BASIC PRINCIPLES OF CLINICAL NUTRITION
277-190403	EPIDEMIOLOGY AND PUBLIC HEALTH
277-190404	PRINCIPLES OF FOOD PREPARATION
277-190405	BIOCHEMISTRY OF MACRONUTRIENTS METABOLISM
277-190406	PHYSIOLOGY OF ALIMENTATION

15.4.1 NUTRITION DURING PREGNANCY AND CHILDHOOD (277-190401)

(1) SYLLABUS

Preconception nutrition: reproductive physiology, nutrition and fertility, contraceptives and nutritional status, recommended dietary intake before conception. Disorders and interventions. Premenstrual syndrome, Body weight and fertility, Energy balance and fertility, Polycystic ovary syndrome, Phenylketonuria, Celiac disease, Diabetes mellitus before pregnancy.

Nutrition during pregnancy. Physiology of pregnancy, Fetal growth and development, Weight gain, Nutritional needs in pregnancy, Factors affecting nutritional intake, Healthy eating, Nutritional status assessment, Exercise and pregnancy, Common health problems. Disorders and interventions. Obesity and pregnancy, Hypertensive disorders of pregnancy, Gestational diabetes mellitus, Polygynous pregnancies, HIV/AIDS in pregnancy, Feeding disorders, Fetal alcohol syndrome disorders, Nutrition in the teenage pregnant woman.

Nutrition during lactation. Physiology of lactation, Milk composition, Benefits of breastfeeding, Milk supply and infant requirements, Breastfeeding process, Breastfed infant, Maternal nutrition, Promotion, and support of breastfeeding. Disorders and interventions. Common breastfeeding disorders, Maternal drug intake, Exposure to alcohol and addictive substances, Neonatal and nuclear jaundice, Breastfeeding in multiple neonates, Infant allergies, Late preterm neonates, Medical contraindications to breastfeeding.

Infant nutrition. Infant development, Nutritional requirements, Feeding in early infancy, Feeding infants and preschool children. Growth and Development, Nutritional requirements, Common feeding problems, Prevention of feeding related disorders.

Nutrition in childhood and pre-adolescence. Growth and Development. Common nutritional problems, Prevention of eating disorders, Nutritional recommendations, Nutrient requirements.

Nutrition in adolescence: Growth and Development. Nutritional requirements, Nutritional assessment. Disorders and interventions. Overweight and obesity, Consumption of dietary supplements, Feeding disorders, Nutrition in adolescent athletes, Specific nutritional concerns in adolescence.

(2) LEARNING OUTCOMES

The course provides insights into the interactions of nutrition in the preconception period, infertility, reproduction, pregnancy and childhood. Upon successful completion of the course the student will be able to: (a) understand the physiology of pregnancy, lactation, and the stages of infant development through adulthood; (b) recognize nutritional problems associated with infertility, reproduction, pregnancy, and the first 18 years of life, (c) be able to treat or recommend nutritional therapies to address nutrition-related health problems in pregnancy,

lactation, infancy, childhood and adolescence; (d) assess the nutritional requirements of pregnant women, lactating women, infants, children and adolescents, e) monitor and assess the nutritional status of pregnant women, infants, children and adolescents; f) set nutritional treatment goals for pregnant women, lactating women, infants, children and adolescents; g) use a nutritional care plan by evaluating his/her interventions, h) identify social and cultural factors that limit nutrition in pregnancy, breastfeeding and childhood; i) use knowledge of nutrition to prevent disease in pregnancy and childhood.

15.4.2 BASIC PRINCIPLES OF CLINICAL NUTRITION (277-190402)

(1) SYLLABUS

Theory

Nutritional assessment of patients using biochemical, hematological, anthropometric, clinical and nutritional indicators.

Investigating the risk of malnutrition and practicing the interpretation of hematological and biochemical tests.

Nutritional risk detection. Assessment of nutritional needs and nutritional status of patients.

Somatometric methods for assessment of nutritional status of patients. Methods for calculating energy needs in patients as well as assessment of energy needs in hypercatabolic diseases.

Calculations of disease trauma factor and application of specialized evaluation tests (screening tests) in various population groups.

Hospital diets.

Interaction of Nutrition and Disease. Modification of metabolic models (stress, sepsis, hypercatabolic states).

Diet and Drug Interaction.

Introduction to food allergies and food intolerances.

Nutritional Support. Enteral and Parenteral Nutrition.

Introduction to the nutritional care process. Designing appropriate diets with modifications to the patients' usual diet to meet their needs.

Laboratory work

Somatology in Pathological Conditions

Calculation of energy and nutrient needs in Pathological Conditions Use of Screening Tests of assessment

Assessment of Malnutrition Risk Factors

Use of enteral and parenteral nutrition, assessment of biochemical and hematological tests

Application of the above in Case Studies of pathological conditions of hospitalized patients

(2) LEARNING OUTCOMES

The course aims to acquaint the students with the assessment, tools (methods) and indicators for assessing the patient's nutritional status (biochemical and other indicators of nutritional status) for the early recognition of nutritional risk and the nutritional care process. It also aims to provide knowledge to students for the implementation of nutritional interventions according to the needs of patients. Upon successful completion of the course, the student will have acquired skills to identify individuals at nutritional risk and assess their nutritional status, as well as to design appropriate nutritional interventions.

15.4.3 EPIDEMIOLOGY AND PUBLIC HEALTH (277-190403)

(1) SYLLABUS

Epidemiology: Survey design and methodology. Definition of epidemiology and scope of application. Prevalence. Incidence indicators

Epidemiology of nutrition. Bradford Hill criteria. Pyramid of evidence. Minnesota experiment. A study of 7 countries. The Dutch famine. Barker theory. Thrifty gene hypothesis. Diet and cancer. Etiological factors in nutritional epidemiology. Obesity

Cohort studies. Hypothesis formulation. Sample selection. Advantages-disadvantages of cohort studies. Synchronous studies. Types of synchronic studies. Reliability and repeatability of methods. Sampling. Advantages-disadvantages of synchronic studies. Interventional studies. Randomised clinical trials. Phases of randomized clinical trials. Key steps of RCTs. Other types of interventional studies. Ethical issues. Meta-analysis. Descriptive evidence study. Presentation of results. Advantages-disadvantages of meta-analysis. Health inequalities. Impact of social parameters on health. Impact of economic factors on health. Unemployment as a factor in causing disease. Impact of demographic factors on health. Addressing health inequalities. Demography. Usefulness of medical demography. Sources of medical demographic data. Greek demographic data publications.

(2) LEARNING OUTCOMES

The course provides knowledge about the concepts of epidemiology and nutrition epidemiology, how to evaluate nutrition studies, design of research hypotheses and nutrition studies, tools used in nutrition studies, errors in nutrition research, always using examples from known nutrition studies and real-life cases. Upon successful completion of the course, the student will be able to: a) understand the concept of epidemiology and nutritional epidemiology; b) understand the limitations of nutritional studies; c) be able to evaluate the degree of evidence for each nutritional intervention; d) critically evaluate research data; e) be able to treat or propose evidence-based nutritional treatments for health problems; f) ask research questions and design nutritional studies; g) use knowledge of nutrition to prevent the occurrence of diseases in the life cycle.

15.4.4 PRINCIPLES OF FOOD PREPARATION (277-190404)

(1) SYLLABUS

Theory:

Water: Structure. Interaction with other molecules. Physicochemical properties. Water activity. Role of the food and the human body. The drinking water. Proteins: Structures. Physical Configuration and denaturation. Functional properties (water binding, solubility, viscosity increase, gelation, emulsification and foaming ability, viscoelastic properties, fat adsorption, commitment flavoring). Functional properties of meat proteins, milk, eggs and fruit cereal. Effect of these on the quality and nutritive value of the final products. Carbohydrates: Nutritional importance and functional properties of carbohydrates. Classification. Monosaccharides and disaccharides. Oligosaccharides. Sugar alcohols. Starch and pastries. Cellulose and its products. Hemicelluloses. Pectin constituents. Dietary fiber. The plant cell. Changes in plant tissues during maturation and processing. Industrial fermentations of carbohydrates. Lipids: Classification. Fatty acids. Glycerides. Physical properties of lipid and food quality (relative density, flavor, color, viscosity, melting point, polymorphism, plasticity,

emulsifying ability). Chemical properties of lipid and food quality (hydrolysis, hydrogenation, oxidation, polymerization, re-esterification). Frying and frying oils. Lipids and emulsions. Salad oils. Salad dressings. Mayonnaise. Natural pigments: Overview of color. Chlorophylls from a technological and nutritional point of view. Carotenoids from a technological and nutritional point of view. Phenolic compounds from technological and nutritional point of view. Betalaines from a technological and nutritional point of view. Effect of processing and external factors on natural dyes

Laboratory work:

Proteins flour: hydration grade and effect of various additives in their operating characteristics. Proteins meat: Effect of heat treatment conditions on ISNE, quality and performance of meat. Cereal and potato starches: Effect of starch gelatinization in the structure of starch granules and the organoleptic characteristics of the baked products. Polysaccharides of plant tissues: Effect of cooking method and various additives on the quality of vegetables. Fermentation of the lactose of milk: Effect of composition of milk and fermentation conditions on the quality of yoghurt. Milk cream: Factors influencing the size and stability of the foams of whipped cream. Lipids and potato frying: Effect of the quality and durability of frying oil in the final product's quality characteristics. Emulsions - Preparation of mayonnaise: Effect of the presence of various components in the stability and the quality characteristics of Natural pigments of fruits and vegetables: Influence of the environment and various components in the color and stability of pigments.

(2) LEARNING OUTCOMES

The understanding of the physical and chemical behavior of food nutrients (water, proteins, carbohydrates, lipids, natural dyes) before, during and after processing in the production unit. The understanding of the impact of the formation, structure, and the friendly or hostile relations between food components, physicochemical and functional behavior and generally the quality and nutritive value of the end products. The ability to evaluate the quality of finished products

15.4.5 BIOCHEMISTRY OF MACRONUTRIENTS METABOLISM (277-190405)

(1) SYLLABUS

Theory

Overview of the metabolism. Metabolic roads. Metabolic activities of the main organs. Stages of catabolism. Effect of hormones. Interdependence of metabolic routes. Interdependence of metabolism among different tissues. Overview of carbohydrate metabolism: Glycolysis. Glycogen Metabolism. Gluconeogenesis. Metabolism of fructose, glucose, glycerol and phosphate pentoses. Citric acid cycle. Circle of glyoxylic acid. Metabolism of fats: B-oxidation. Oxidation of unsaturated fatty acids. Metabolism of alcohol. Biosynthesis of fatty acids. Metabolism of triglycerides. Biosynthesis of eicosanoids and involvement of omega-3 and omega-6 fatty acids. Structure of lipoproteins. Metabolism of amino acids. Dynamic balance of amino acids-proteins. Deamination of amino acids. Urea Cycle. Degradation of the carbonate skeleton. Amino acid derivatives. Biosynthesis. Metabolic activities of the main organs. Effect of hormones. Interdependence of metabolic pathways. Interdependence of metabolism between different tissues. Integration of carbohydrate, fat and protein metabolism in normal daily life Long-term regulation of metabolism Lipoprotein metabolism.

Laboratory work

Lipids: Effect of the composition of the fat in the permeability of the lipid monolayer. Study of the permeability of liposomes. Determination of total and HDL cholesterol. Nucleic acids. Isolation of DNA. Purity control and denaturation of DNA. Determination of the activity of trypsin inhibitor. Isolation and purification of a protein (acid phosphatase). Enzymes: factors affecting enzyme activity. Reactions of the cycle of Krebs.

(2) LEARNING OUTCOMES

The aim of the course is to study the metabolism of macronutrients at the molecular, cellular and human body level with emphasis on energy metabolism. Furthermore, the study of the regulation of energy metabolism management by the human body postprandially, during fasting, during exercise etc. in short and long term in physiological and pathological conditions. Upon successful completion of the course, students will be able to: a) know the biochemical processes by which proteins, fats and carbohydrates are metabolized; b) understand the rules governing the control and function of biochemical processes; c) organize, analyze and explain experimental data; d) understand the interaction and mutual regulation of biochemical metabolic pathways to meet the energy needs of the individual using dietary components or by activating body reserves.

15.4.6 PHYSIOLOGY OF ALIMENTATION (277-190406)

(1) SYLLABUS

THE DIGESTIVE SYSTEM. Anatomy-processes and functions of the digestive system: The structure of the gastrointestinal tract (GIT), wall layering, digestion and absorption, GIT motility. Regulation of the function of the gastrointestinal tract. The intestinal nervous system, and the peptides of the GIT. Integrated function of the gastrointestinal tract: Cephalic, gastric and intestinal phases, saliva, ingestion, gastric secretions in the stomach, the balance of digestion and defence in the stomach, secretions in the intestine, the role of the pancreas and liver, absorption of carbohydrates, fats, proteins, nucleic acids, absorption of vitamins, absorption of ions and water, regulation of the intestinal phase, role of the large intestine. Immune functions of the GIT, the action of M cells on the intestinal contents, vomiting

Metabolism and energy balance - Appetite and satiety. Energy balance: The reflection of energy use through oxygen consumption, factors affecting metabolism, energy storage in glycogen and fat. Metabolism: utilization or storage of energy intake, the control of the direction of metabolism by enzymes. Metabolism in the food intake phase: synthesis of ATP from carbohydrates, protein from amino acids, storage of energy by synthesis of fats, the prognostic character of plasma cholesterol. Metabolism in the fasting phase: the conversion of glycogen to glucose, the use of proteins for ATP synthesis, the storage of more energy of fats than glucose and proteins. Homeostatic control of metabolism: Insulin and glucagon secretion by the pancreas and the insulin-glucagon ratio in the regulation of metabolism, promotion of anabolism by insulin, predominance of glucagon in the fasting phase, diabetes mellitus as a family of diseases, type 1 diabetics and ketoacidosis, the elevated insulin levels in type 2 diabetes, the link between diabetes and cardiovascular disease through the metabolic syndrome, the effect of various hormones on metabolism. Regulation of body temperature: The balance of heat production from body temperature, homeostatic regulation of body temperature, heat from movement and metabolism.

ENDOCRINIC CONTROL OF GROWTH AND METABOLISM: principles of endocrinology, adrenal glucocorticoids, thyroid hormones, growth hormone, tissue and bone growth, calcium balance.

(2) LEARNING OUTCOMES

The aim of the course is to highlight the effect of food on human metabolism. The importance of nutrition in the growth, development and aging of the human body is of great interest. Recently, it has become increasingly apparent that the health of the body depends on a healthy and functional gut and that many of today's diseases (such as heart failure, stroke, cancer and diabetes) are related to gut function and nutrition. The course teaches how the body assimilates nutrients from food, how the body gets the needed energy, how nutrients are used, and the relationship of all of these to health and disease in the body. The course teaches the structure, function and regulation of the gastrointestinal tract, the digestion of food, the assimilation of nutrients, the general principles of nutrient metabolism, and the general principles of endocrine control of body development. Upon successful completion of the course, the student will be able to: (a) describe information on the physiological processes of digestion, assimilation, nutrient metabolism and endocrine control of growth; (b) analyze the factors that influence appetite and food digestion, nutrient assimilation and metabolism and finally endocrine control of body growth, c) interpret situations in the event of disorders, identifying and describing the problem.

15.5 5th Semester Courses

277-190501	NUTRITION DURING ADULTHOOD AND OLDER AGE
277-190502	NUTRITION, EXERCISE AND QUALITY OF LIFE
277-190503	ETHICS AND DEONTOLOGY
277-190504	NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS I
277-190505	FOOD CONTROL AND ANALYSIS
277-190506	NUTRIGENETICS

15.5.1 NUTRITION DURING ADULTHOOD AND OLDER AGE (277-190501)

(1) SYLLABUS

Preventive nutrition and factors affecting feeding. Food pyramids and daily recommended dietary intakes (DRI or RDA). Body composition and Anthropometry. Energy balance and weight control. Normal and regulatory control of food intake. Nutrients (Carbohydrates, lipids, Proteins, Vitamins, minerals, trace elements). Vegetarianism. Characteristics of aging. Changes in body composition during aging. Changes of the main functions of the body during aging. Energy needs of the elderly. Needs of the elderly in nutrients. Chronic diseases in old age related to nutrition. Insulin resistance. Nutrition and lifetime (Longevity).

(2) LEARNING OUTCOMES

The study of the diet of adults and the elderly and the factors affecting it. To provide the necessary knowledge about the dietary needs of adults, to maintain their health and achieve longevity. Providing knowledge to students in order to be able to compile, analyze and prepare diets for adults and elders.

15.5.2 NUTRITION, EXERCISE AND QUALITY OF LIFE (277-190502)

(1) SYLLABUS

Introduction to the definitions of quality of life and well-being. Components of quality of life and well-being. Health, well-being and healthy lifestyles. Healthy diet and exercise as a lifestyle. Exercise as a way of life, the Pyramid of Nutrition and Exercise. Benefits of diet and exercise on health. Exercise Metabolism. Nutrients and exercise. Appropriate exercise programs to improve body composition. Exercise in the life cycle, childhood and adolescence. Exercise in adulthood and old age. Exercise in the prevention and control of various cardiometabolic and chronic diseases. Exercise and smoking. Exercise and euphoria and stress relief. Exercise and self-esteem. Exercise and body image. Quality of life, pleasure and psychological benefits of exercise. Exercise, nutrition and health programs. Intervention strategies with behavioural therapy.

(2) LEARNING OUTCOMES

The aim of the course is: a) to acquire knowledge about the ways in which exercise can affect health and quality of life, b) to acquire knowledge about the interaction of exercise with the physical, emotional, spiritual and mental health of individuals, c) to provide nutritional support

and familiarization with exercise programs for population groups with special characteristics so that they are effective and lead to the improvement of their quality of life. Upon successful completion of the course, students will: a) have acquired skills to address the nutritional needs of all exercisers according to their gender, age and health status; b) be able to recommend lifestyle changes related to disease prevention and promoting vitality and well-being; c) be equipped with knowledge of research methodology for the design of research protocols in nutrition, exercise and health.

15.5.3 ETHICS AND DEONTOLOGY (277-190503)

(1) SYLLABUS

Professional rights and obligations of a nutritionist-dietician. Principles and rules of professional ethics. Social values. The position of the basic human values in the profile of the dietitian (accountability, trust, communication, self-control, cooperation, etc.). Modern bioethics and professional ethics. Dietitian's relationship with the health professions. Dietitian's relationship with the patient and the family environment. Patient autonomy and protection of privacy. Basic ethical principles (medical confidentiality, informed consent, record keeping). Protection of Health. Dietitian's relationship with the health professions. Dietitian's relationship with the patient and the family environment. Operation of a patient nutrition support team (composition, resources, cooperation, coordination). Evaluation and improvement of nutritional care. Collaboration with other health professionals. Relationship with institutions and medical services companies. Decisions with ethical significance in the work environment. Ethical dilemmas and methods of assessing and resolving them. "Improvement" of the human organization. Decisions at the End of Life. Ethical Control of Research - Research on Animals - Clinical Studies.

(2) LEARNING OUTCOMES

The acquisition of basic knowledge and awareness of ethical attitudes, values and ethical standards that should govern the professional conduct in daily practice, in order to upgrade, the smooth and efficient operation of institutions or workplaces and achieve high quality work for the benefit of society. By the end of the course, students will be able to understand ethical issues and appreciate the importance of ethics in the practice of the profession of nutritionist-dietician. The knowledge of the different views that oppose each of these ethical dilemmas contributes to the correct judgement of the issues and leads the student to have a well-founded opinion on issues that concern the professional nutritionist-dietician and the society.

15.5.4 NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS I (277-190504)

(1) SYLLABUS

The content of the course emphasizes the nutritional assessment, diagnosis, intervention and follow-up of patients suffering from: obesity, arterial hypertension, lipid disorders, hyperuricemia, anemia, stroke, coronary artery disease, peripheral arterial disease and increased cardiovascular risk.

(2) LEARNING OUTCOMES

The course aims to provide knowledge on the dietary management of acute and chronic diseases. The purpose is for students to study how to provide nutritional care to people suffering from various diseases, combining the knowledge they have acquired from biochemistry, physiology and pathophysiology, and to apply appropriate nutritional interventions at individual and group level. The course reinforces: a) Recognition of the connection between prevention and treatment, b) Understanding of the evolutionary dynamics of the scientific knowledge field of Nutrition Dietetics, through clinical applications/studies, c) Providing analytical and advanced knowledge of the scientific field of Dietetics - Nutrition regarding special population groups that are ill or at increased risk of illness through the process of nutritional and dietary care and therapeutic nutrition.

15.5.5 FOOD CONTROL AND ANALYSIS (277-190505)

(1) SYLLABUS

Water contained in food (water binding, water activity) – determination methods. Carbohydrates (Reactions of monosaccharides, Glucosides. Maillard reaction. Enzymatic browning. Oligosaccharides. Polysaccharides) - methods of analysis.

Proteins (Globulins, proteids etc. Split according to their solubility. Chemical changes of proteins. Classification based on its solubility. Chemical modification of proteins. Degradation of proteins, Biogenic amines) -Methods of analysis.

Fats and oils (Synthesis, cleavage, alkaline hydrolysis, enzymatic hydrolysis. Phosphatides. Sterol. Alcohols and glykerinoaiteres. Lipochromata. Other ingredients of fats and oils. Chemical conversion of fats and oils) - Analysis methods.

Minerals (sodium, potassium, magnesium, calcium, chlorine, phosphorus, iron) - Analysis methods. Minerals (Iodine, Copper, Fluoride, Zinc, Manganese, Cobalt, Molybdenum, Chromium, Nickel, Selenium) - Methods of analysis.

Molecular methods in food analysis: food adulteration with other foods, the issue of feta.

Case study: food crises (Creutzfeld-Jakob disease, Chernobyl, melanin in milk, aflatoxins, etc.).

Laboratory work

Determination of accuracy, fidelity and correctness of analytical methods, comparison of results.

Properties of fats and oils. Colour compounds in foods. Statistics of chemical analyses.

Humidity of food -Determination of moisture content using the gravimetric method and azeotropic distillation. Ash of foodstuffs - Determination of ash by direct incineration.

Determination of total acidity in foodstuffs. Detection of components in food (milk). Fibre -

Determination of fiber. Fats and oils in foods - Determination of fat or oil by Soxhlet method.

Proteins in food-Determination of total food protein by the Kjeldahl method. Sugars in food - iodometric determination of sugars. Polarimetric determination of sugars. Separation of fat

soluble vitamins with TLC. Spectrophotometric determination: a) vitamin B6, b) carotenoids.

Detection and quantitative determination of ascorbic acid. Iodometric determination of total sulfurous acid. Inorganic substances in foods.

(2) LEARNING OUTCOMES

The aim of the course is to study the methods for the analysis and control of foods by the European and Greek authorities in order to protect public health. In the context of the course, the methods of food analysis will be presented and the management of food crises will be examined in relation to the prevention methods applied and the analytical methods for the detection of food hazards and food adulteration. Upon successful completion of the course,

students will be able to: a) understand how a food control system ensures that available food is safe for human consumption (compliance with food safety and quality requirements as defined by law); b) apply analytical methods to food samples; c) evaluate the validity of public information based on scientific findings; d) inform the public on issues related to food quality and safety.

15.5.6 NUTRIGENETICS (277-190506)

(1) SYLLABUS

Molecular mechanisms of genes-nutrients interactions: Nutrigenetics and nutrigenomics: Detailed description and comparison of the two concepts of nutritional genomics. Molecular mechanisms of nutritional components penetration in the expression of the human genome; Lifestyle, nutrition, and genome interaction for better health.

Impact of gene changes: Influence of gene changes on lifestyle and diet as well as on the development of chronic diseases. Polymorphic genes with nutrigenetic effects (MTHFR, genes that affect cholesterol, insulin levels and Ca^{+2} absorption).

Personalized nutrition I: Formulation of dietary recommendations according to the genetic background. Chemoprophylaxis through dietary components. Examples of studies on cancer, phenylketonuria, lactose and gluten intolerance, need for antioxidants, vitamins and trace elements. Nutrition and expression of adipocyte genes.

Personalized nutrition II: Formulation of nutritional recommendations and epigenetics. Effect of malnutrition and specific dietary components on gene expression (Dietary zinc, iron, selenium, vitamin A and D, omega 3 fatty acids, polyphenols, alcohol, caffeine. Nutritional epigenetics and prevention of childhood diseases.

Legal and social implications of nutrigenetics-Research perspectives: The use of proteomics in the identification of bioactive molecules in food. Commercial side of nutrigenetics in the implementation of personalized nutritional interventions.

Legal framework applicable to nutrigenetics in Greece and the EU. Evaluate research trends in this area. Presentation of assignments: Presentation of the best assignments. Educational visit: Educational visit to a Genetics Laboratory.

(3) LEARNING OUTCOMES

The purpose of the course is to present the importance of nutrigenetics in human health and in particular the interaction of nutrition with the genome. Students will come into contact with the new data from the decoding of the human genome and will understand the effect of dietary components on gene expression as well as the relationship of nutrition to genes and human diseases. The ultimate goal is to provide knowledge and skills that will enable students to create personalized nutrition and lifestyle programs to prevent common, multifactorial diseases. Upon completion of the course, students will learn to describe the basic principles of nutrigenetics and nutrigenomics, will be aware of the interaction of lifestyle and nutrition with gene expression, will be able to describe the role of specific nutritional components (e.g. trace elements, vitamins, minerals) in gene regulation and genetic expression, will be aware of the basic techniques and the methods used in nutrigenetics and in the study of gene changes, will be able to assess the genetic predisposition to diet-dependent diseases with the help of genetic markers, will have acquired the theoretical background for the formulation of personalized nutritional interventions, will have been informed about the legal and social implications of the application of nutrigenetics as well as about the prospects for research in this field.

15.6 6th Semester Courses

277-190601	NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS II
277-190602	NUTRITIONAL EDUCATION - HEALTH EDUCATION
277-190603	SPORTS AND NUTRITION
277-190604	NUTRITION INFORMATICS
277-190605	PHARMACOLOGY IN NUTRITION
277-190606	HUMAN MICROBIOME
277-190607	FOOD AND ENVIRONMENT
277-190608	NUTRITION, PHYSICAL AND PERFORMANCE EVALUATIONS

15.6.1 NUTRITIONAL MANAGEMENT OF CLINICAL CONDITIONS II (277-19060)

(1) LEARNING OUTCOMES

The content of the course emphasizes the nutritional assessment, diagnosis, intervention and monitoring of patients suffering from: diabetes mellitus (type 1, type 2 and gestational), prediabetes, acute and chronic kidney disease, asthma, chronic respiratory lung disease, sleep apnea, non-alcoholic fatty liver disease, diseases of the upper and lower gastrointestinal tract.

(2) LEARNING OUTCOMES

The course aims to teach students to analyze and plan nutritional care for people with various nutrition-related diseases. Students will learn to draw up the appropriate diet or treatment regimen based on international recommendations, with the aim of nutritional support for the patient. Upon successful completion of the course, the student will be able to recognize the role of nutrition, diet and various nutrients in dealing with a pathological condition. Finally, he/she will be able to assess the patient's nutritional status, draw up a nutritional diagnosis, calculate his energy and nutrient requirements and formulate his follow-up plan.

15.6.2 NUTRITIONAL EDUCATION - HEALTH EDUCATION (277-190602)

(1) SYLLABUS

Nutrition Education: its importance

Determinant factors in food choice and dietary changes: their impact on the outcome of nutrition education. Review of Nutrition Education in search of methods to facilitate motivation, competence and support for eating behaviour change. Methods of increasing awareness and motivation to empower and take action on dietary behaviour change. Methods to facilitate capacity for behaviour change and action. Environment and dietary behaviour change. Investigation of current research findings on nutrition education. Research and theory in action: nutrition education in practice.

(2) LEARNING OUTCOMES

In the context of the course students will be trained in a) Decision making, b) Teamwork, c) Generation of new research ideas, d) Project planning and management, e) Respecting diversity and multiculturalism, f) Demonstrating social, professional and ethical responsibility and

sensitivity to gender issues; g) Exercising critical and self-critical thinking; h) promoting free, creative and deductive thinking

15.6.3 SPORTS AND NUTRITION (277-190603)

(1) SYLLABUS

Exercise energy substrates. Exercise energy expenditure, Estimation of energy needs. Energy balance.

Macro and micro nutrient requirements according to the type of sport, training period, age of the athlete and health status. Hydration.

Nutritional assessment of athletes. Biochemical indicators in blood and urine. Fluid loss during exercise and water balance of athletes. Specific exercise needs in extreme conditions. Thermoregulation and acclimatisation.

Nutrition for the elderly athlete

The role of exercise and nutrition in the management of eating disorders: Anorexia Nervosa and Bulimia. Sports Triad. Definition, symptoms, complications, nutritional management, psychological support. Overwork and Overtraining. Appropriate nutritional treatment.

Preparation of individualized diets in speed sports, endurance sports, in sports of weight categorization, in sports where physical appearance affects the score. Preparation of meals before, during and after the sport.

Ergogenic supplements and their role in maximising performance.

Laboratory work

Respiratory quotient. Caloric equivalent of oxygen and carbon dioxide. Measurement of basic metabolism and exercise metabolism. Assessment of nutritional status of athletes. Diet planning for athletes. Maintaining the playing body weight. Planning a diet for athletes in athletics, weightlifting, body building. Planning a diet for athletes in football, basketballs, volleyball, field and ballet.

(2) LEARNING OUTCOMES

Ensuring that the energy and nutritional needs of athletes are met according to their age, gender, type of sport, training load, climatic conditions, training period, training goal and level of health and fitness, helps to optimise athletic performance. The aim of the course is to understand the nutritional needs of athletes, as well as to acquire the necessary knowledge and skills to prepare diets and use ergogenic supplements to maximise training results. Upon successful completion of the course, students will have acquired skills to address the nutritional needs of the diverse needs of championship level athletes. They will also be able to recommend appropriate ergogenic supplements and will be able to work with the coaching team, contributing to the development and implementation of new practices in the field of sports nutrition.

15.6.4 NUTRITION INFORMATICS (277-190604)

(1) SYLLABUS

Theory

Introduction to Nutrition Informatics. Areas of Informatics related to the science of Nutrition & Dietetics.

Databases in Nutrition. Techniques for recording patient data and measurements in databases.
 Compilation and analysis of diets assisted by "intelligent" software.
 Management and collection of data from sensors and wearable devices.
 Creation of on-line questionnaires and conducting on-line surveys/interventions, etc.
 eHealth - Patient Record.
 World Wide Web and Nutrition. Open data, sources of information and reliability.
 Social Networks and Nutrition. Data collection and conducting studies.
 GDPR, Data privacy, Data protection and implications for the profession of Dietitian-Nutritionist.
 Sensors & Wearable devices - Nutrition, Physical Activity & Lifestyle monitoring.
 Big Data, Personalised Nutrition.
 Research projects, research trends and perspectives in Nutrition Informatics.
 Teamwork
 Creation, implementation and evaluation of a model for nutrition, lifestyle and physical activity monitoring of patients using ICTs such as Mobile and Wearable devices.
Laboratory works
 Introduction to Databases (DB) and related software
 Design and use of databases in nutrition
 Description, navigation and queries in DBs used in Nutrition & Dietetics such as Food composition tables (e.g. USDA Food Database), DB study/research project results (e.g. COSI)
 Design and creation of DB and supporting material for the needs of a Dietetic Office and studies/nutrition interventions (recording of patients/participants, visits/measurements)
 Creation of questionnaires and online data collection (e.g. 24recall)
 Presentation and use of free/in-house/open-source software for: a) recording of dietary habits and physical activity, b) drawing up a diet plan, c) other applications (e.g. physical activity monitoring)

(2) LEARNING OUTCOMES

The course presents and studies the specific application of Information Technology in advanced topics related to Nutrition Sciences and Dietetics, such as Personalised Nutrition, e-Health, ICT-supported patient monitoring and Databases in Nutrition. These interdisciplinary topics are studied not only in terms of their scientific content but also as tools for professional employment, research, studies and nutrition interventions in which graduates will be invited to participate. The aim of the laboratory part of the course is the practical training in specialized applications and software in the above mentioned areas, such as recording patient data and measurements in databases, the compilation and analysis of diets assisted by "smart" software, the management and collection of data from sensors and wearable devices, the creation of questionnaires, conducting online research/interventions, etc. Upon successful completion of the course the student will be able to: a) Collaborate in a group of students (within the coursework) to create, implement and monitor a patient monitoring model assisted by Mobile and Wearable devices, b) Understand advanced principles and technologies of Informatics and their application to the science of Nutrition & Dietetics, c) Has knowledge of modern tools and techniques of Nutrition Informatics (Databases, Dietary Compilation Applications, online questionnaires, etc.), d) Uses these techniques for conducting research and/or professional activities in the field of Nutrition & Dietetics.

15.6.5 PHARMACOLOGY IN NUTRITION (277-190605)

(1) SYLLABUS

Introduction to Pharmacology - principals, meaning, fundamental and contemporary terms

The meaning of Pharmacokinetics

Application of Pharmacokinetics principals in the prediction of a drug action

The meaning of Pharmacodynamics

Understanding target-drug interaction mechanisms

Prediction of drug effects to the body based on the mechanism of action

Principles drug therapy - Clues, side effects and unwanted actions from drug use in the clinic act.

Indigenous bioactive molecules - Histamine-Antihistamines, Serotonin-Antiserotonergic, Kinins-Prostaglandins

Properties of vitamins and trace elements - related ailments

chemotherapy and antineoplastic drugs - indications, adverse actions

Drugs stimulating the Central Nervous System - Antipsychotics-Anxiolytics, Antidepressants, Sedatives-Stimulants, Abuse substances, Anticonvulsants, and medicines against Parkinson and Alzheimer's diseases - action, indications and adverse actions

Drugs of the Autonomous Nervous Systemic - Cholinergic medicines, Anticholinergics, drugs of neuromuscular synapses, Adrenergic, Adrenerolytics

Analgesic and Anti-inflammatory drugs

Gastrointestinal drugs, antibiotics and association with probiotics

Anti-obesity drugs and antidiabetics

Hematological drugs

Antihypertensive, antihyperlipidemic, antiarrhythmic, antianginal, and anticoagulant drugs

Active pharmaceutical substances found in herbs, foods and preparations – behavior prediction when co-administered with drugs

Prescribing Medicines - parameters

Mechanisms of drug interaction - prediction and strategy in medicines co-administration.

(2) LEARNING OUTCOMES

The purpose of the course is to make students acquire knowledge regarding:

- the ways of action of pharmaceutical-active substances to human organism
- the understanding of the pharmacokinetics and pharmacodynamics principles
- the types of drugs along with their importance in the clinic act (clues) and in recognition and report of adverse effects (pharmacovigilance)
- the pharmacological action of ingredients contained in food supplements
- the toxicity of drugs and the interaction of active substances with each other, but also with the natural ingredients found in food or in nutritional preparations
- the identification and classification of drugs by therapeutic category
- the search for valid databases and sources of information regarding medicines with reference to counterfeiting and counterfeiting.

The course provides the student with the necessary knowledge of the principles of general pharmacology, pharmacotherapy, toxicity and classification in order to be able to recognize the mechanisms of action of the drugs and the interaction they may have with food and nutritional supplement ingredients acquired after consumption.

15.6.6 HUMAN MICROBIOME (277-190606)

(1) SYLLABUS

An Overview of the Human Microbiome. Terminology. Microbiota living in association with the human body: Bacteria, Archaea, Eukaryotes and Viruses. Principles of Microbial Ecology. Genetic and environmental influences on Microbiota. Characterization of the “Normal” Human Microbiome. Changes in Gut bacterial communities over a lifetime. Impact of Nutrition on the Gut Microbiota. Individualized response to diet. Dietary changes in populations over time. Therapeutic manipulation of microbiota: Probiotics, Next generation Probiotics, Prebiotics, Synbiotics, Fecal transplantation. Practical Diet recommendations. Microbiota in Health and Disease.

(2) LEARNING OUTCOMES

The course provides basic knowledge of the human microbiome. By the end of the course, students will gain a basic understanding of the diversity of the human microbiome and its role in health and disease.

15.6.7 FOOD AND ENVIRONMENT (277-190607)

(1) SYLLABUS

Quality of life in relation to food safety and the environment. Main toxic chemical pollutants in the environment that affect humans through the food chain: Heavy metals (lead, cadmium, arsenic and mercury), Pesticides, Dioxins - Polychlorinated biphenyls (PCBs)

Ecological footprint. Carbon and water footprint.

Sources of environmental contamination of food: climatic changes, contamination by genetically modified organisms, radioactive contamination, contamination by chemicals, contamination during processing, contamination by packaging, hygiene conditions of premises, equipment and personnel, contamination by inappropriate storage conditions.

Packaging materials and the environment.

Plastic as a food packaging material. Natural and chemical polymers used in packaging. The risk of transfer of toxic substances in food and beverages and aesthetic pollution of the environment.

Presence of the toxic substance 'acrylamide' in different types of food. Mechanisms of formation of acrylamide in food. What can be suggested to consumers regarding ways to reduce the formation of acrylamide in different types of food. The EU Regulation 2017/2158 establishing risk mitigation measures and reference levels to limit the presence of acrylamide in food.

Biofuels and food availability.

Utilisation of food waste by converting it into bio-plastic for 3D printing.

Food in waste - wasted food: Initiatives to reduce food waste.

Animal and human bioethics issues in food production.

Risks and impacts of climate change on biodiversity.

Waste management: management and disposal of municipal waste from food consumption, food life cycle.

Life cycle analysis as a tool for assessing environmental impacts.

(2) LEARNING OUTCOMES

The aim of the course is to provide the necessary knowledge about the use of resources and environmental impacts of food production, distribution and consumption, the interactions between the environment and food, waste generation and food crises. Students are also expected to be able to formulate proposals for the protection of both the environment and food. The aim is also to highlight the achievements of scientific research and to discuss the evidence from current scientific knowledge on contemporary environmental problems and the extent to which they affect food quality. Furthermore, the mechanisms of the environmental impact of different food production, distribution and consumption technologies are discussed.

15.6.8 NUTRITION, PHYSICAL AND PERFORMANCE EVALUATIONS (277-190608)

(1) SYLLABUS

Introduction to nutrition, physical and performance evaluations (ergometric): introduction to the concept, purpose and aim of physical and performance evaluations, analysis of the importance of physical and performance evaluations in the prescription and course of nutrition and exercise interventions, use of the results of physical and performance assessments in nutritional and sports science, analysis of concepts of assessment and evaluation.

Pre- ergometric Testing and Safety.

Key Issues in ergometric Assessments.

Evaluation of Anthropometric Data-Body Composition.

Metabolism Assessment.

Resting Cardiovascular Function Assessment.

Aerobic Capacity Assessment.

Anaerobic Capacity Assessment.

Assessment of muscular strength and muscular endurance.

Muscular Strength - Altitude Assessment.

Assessment of Flexibility and Mobility.

Exercise Energy Expenditure Assessment - Metabolic Equations.

Ergometric Assessment Selection Methodology.

(2) LEARNING OUTCOMES

The aim of the course is to provide students with the necessary knowledge, both theoretical and practical, about the factors that affect the reliability and validity of an assessment, the biological factors that affect performance during ergometric assessments, the methodology for selecting the appropriate ergometric assessments on a case-by-case basis, the conduct of safe and reliable ergometric assessments, the documentation of the completion of the various assessments, the process of analyzing the results and extraction. Upon successful completion of this course, students will be able to: a) Know the concept and importance of valid and reliable measurements; b) Know the pros and cons of various ergometric assessments; c) Be able to select appropriate ergometric assessment protocols on a case-by-case basis; d) Know the biological parameters that affect course and performance in various basic ergometric assessments; e) Know the critical points of basic ergometric assessments; f) Can perform basic ergometric assessments; g) Can monitor the progress of ergometric assessments; h) Know the critical elements of monitoring vital signs for the safety of trainees; i) Can extract correct and valid results from ergometric assessments; j) They can use the results of ergometric assessments in their work; k) Plan repeat assessments according to the objective and the time period assigned to them.

15.7 7th Semester Courses

277-190701	NUTRITIONAL SUPPORT FOR PEDIATRIC PATIENTS
277-190702	DIET AND OBESITY
277-190703	FOOD TECHNOLOGY AND QUALITY CONTROL
277-190704	MASS FOOD PRODUCTION
277-190705	BIOSTATISTICS IN NUTRITION
277-190706	MEDITERRANEAN DIET AND HEALTH
277-190707	BIOCHEMISTRY OF MICRONUTRIENTS METABOLISM

15.7.1 NUTRITIONAL SUPPORT FOR PEDIATRIC PATIENTS (277-190701)

(1) SYLLABUS

Assessment of the nutritional status of children and adolescents. Requirements, screening, peculiarities. Clinical assessment.

Developmental deficits. Food allergies.

Nutrition of infants and preschool children: Disorders and interventions. Children with special health care needs, Nutrition-related conditions, Feeding problems, Basic growth assessment.

Nutrition in childhood and pre-adolescence: Disorders and interventions. Nutritional needs of children with special care needs, Basic growth assessment, Nutritional recommendations, Feeding difficulties, Nutritional supplements and herbal therapies.

Nutrition in adolescence: Disorders and Interventions. Overweight and obesity, Consumption of nutritional supplements, Feeding disorders, Nutrition in adolescent athletes, Specific nutritional concerns in adolescence.

Inflammatory bowel diseases. Evidence-based Nutritional Therapy, Feeding problems, Dietary recommendations and guidelines, Nutritional/malnutrition assessment.

Celiac disease.

Epilepsy - neurological problems. Ketogenic diet, ketogenic diet models, nutritional care plan, development, evaluation.

Food allergies. Food intake scales, nutrition assessment. Restrictive diets.

Burns - wounds. Nutritional assessment, Nutritional assessment-screening, nutritional therapy, dietary recommendations.

Phenylketonuria - Maple syrup urine odour disease.

Cystic Fibrosis. Nutritional treatment, growth problems, dietary recommendations. Kidney disease.

Nutrition in children with feeding-digestive disorders. Developmental disorders.

HIV-AIDS

Laboratory work

Nutritional assessment of paediatric patients

Detection of nutritional risk in paediatric patients Assessment of nutritional requirements of paediatric patients Assessment of clinical findings

Resolution of cases with food allergies, intolerances, celiac disease, diabetes mellitus, burns, phenylketonuria, cystic fibrosis, swallowing disorders, paraplegia, etc.

(2) LEARNING OUTCOMES

The aim of the course is the analytical approach of nutritional assessment and nutritional care of pediatric patients, both hospitalized and non-hospitalized, in the context of specific dietary intervention and nutritional support depending on the disease, with emphasis on chronic diseases occurring in the first stage of life. Upon successful completion of the course the student will be able to: a) understand the general physiology of the most common nutrition-related chronic diseases occurring in the first stage of life; b) identify the factors of malnutrition in each disease and the evidence-based nutritional pathways for its management; c) be able to treat or recommend evidence-based nutritional therapies to address health problems in pediatric patients; d) calculate nutritional requirements and understand the specificities of pediatric patients, e) monitor and assess the nutritional status of pediatric patients; f) set nutritional treatment goals for pediatric patients; g) use a nutritional care plan by evaluating his/her interventions; h) identify social and cultural factors that limit the nutritional status of pediatric patients; i) synthesize patient data to propose a person-centered plan of care.

15.7.2 DIET AND OBESITY (277-190702)

(1) SYLLABUS

Causes of Obesity. Methods for determining obesity. Effects of obesity on health. The role of energy intake in obesity. Resting metabolism and obesity.

The importance of dietary treatment of obesity and the context of the therapeutic approach. Diets with different nutrient profile, ketogenic diets, monomeric diets cyclical diets, liquid diets (formula), pre-weighed diets, various diets (Cambridge, Atkins, Stillman, Beverly Hills, Pritikin, Rotation, F-plan, optilast, etc.). Metabolic reactions on weight loss. Food preferences and weight control. Physical activity and obesity.

Obesity in infancy, Obesity in childhood, Obesity in adolescence.

Psychological and social factors and obesity. Pharmacological treatment of obesity, Bariatric medicine, Behavioural therapy.

(2) LEARNING OUTCOMES

The aim of the course is to engage the student with the newest theories in the field of Diet and Obesity. Upon successful completion of the course, students will know how the overweight and obese patient should be treated in terms of prevention and treatment of the disease.

15.7.3 FOOD TECHNOLOGY AND QUALITY CONTROL (277-190703)

(1) SYLLABUS

About quality. Definitions, objectives and stages of quality control. Quality control of raw materials, production process and final product. Quality control methods. Organisation chart of food production units. Duties of the quality control department.

Sampling. Quality characteristics of foods. Organoleptic characteristics: Appearance, texture, odour and aroma, taste.

Introduction to the HACCP system and simulation of the development of a HACCP plan to produce hot and cold meals.

Milk & Dairy products: Production & ingredients of milk. Microbiology of milk pasteurized and sterilized milk.

Acidic dairy products. Yoghurt, Cheeses. Quality control of milk & dairy products.

Meat & meat products: Description & classification of meat and meat products. Smoking, salting and nitration. Dehydrated, pasteurised and boiled sausages. Chilled and frozen meat and meat preparations. Quality control of meat & meat products.

Fishery products: Classification of fisheries. Chemical composition and biological value. Chilled and frozen preservation. Canning, salting, smoking and drying of fish. Quality control of fishery products.

Fats and oils: Technology of oil extraction - Olive oil. Olive oil extraction - Olive oil extraction technology. Quality control of fats & oils.

Fruits & Vegetables: General about preservation of fruits and vegetables. Canning of fruits. Canning of fruit and vegetables. Fruit and vegetable preservation. Prunes, sultanas, figs. Quality control of fruit & vegetables.

Vinification technology. Quality control of wine. Brewing technology. Quality control of beer.

Cereals: Cereal technology. Flour quality, thinning. Cereal products. Quality control of cereals and their products.

Coffee and tea making technology. Quality control.

Laboratory work

General: Methods of organoleptic analysis. Basic senses. Organisation and design of organoleptic tests. General principles of organoleptic and organoleptic analysis. Analytical and descriptive tests. Sampling and preparation of food samples. Errors in sampling. Reliability of testing.

1. Pair comparison test. Identification of flavours. Application to aqueous solutions.
2. Triangular test. Application to juices and tea.
3. Duo-trio test. Application to cold and/or hot drinks, and/or milk, and/or juices.
4. Ranking test. Application to beer.
5. Taste test. Application to beverages and spreading products (honey or praline) on bread.
6. Organoleptic testing of bread and bakery products.
7. Organoleptic testing of olive oil.
8. Organoleptic testing of wines.
9. Organoleptic testing of 'feta' cheese and other traditional cheese products.
10. Organoleptic testing of sausages.
11. Organoleptic testing of fruit and vegetables
12. Macroscopic quality control of canned goods.
13. Control of labelling on the packaging of standardised foodstuffs.

(2) LEARNING OUTCOMES

The aim of the course is to provide students with the specific knowledge to be able to (i) apply the principles of quality control and especially the organoleptic assessment of food groups included in the procurement programme of mass catering units (catering for units of health, tourism, education, etc.), (ii) apply organoleptic techniques in quality assessment, research and consumer acceptance of food and (iii) correlate organoleptic and objective measurements in the assessment of the quality of food products and (iv) apply them to the evaluation of food products. An understanding of the importance of food quality control is a prerequisite for working in places where food intended for human consumption is directly or indirectly handled. The laboratory exercises are designed to link theory and practical application of knowledge to familiarise students with methods of organoleptic evaluation and food quality parameters and

to enable them to relate subjective and objective measurements in assessing the organoleptic quality of foodstuffs.

15.7.4 MASS FOOD PRODUCTION (277-190704)

(1) SYLLABUS

Types of catering units. Restaurants of all kinds. Catering departments on public transport. Catering departments of organisations and institutions. Hotel catering departments. Independent caterers.

Food Hazards and Food Safety in Catering Units.

Quality assurance in mass catering units. Quality assurance systems. Quality standards in the food chain. Requirements for spatial planning, building program and hygiene in catering units. Prerequisites and good practices in the main functions of the catering unit: supply, receipt, and storage of raw materials. Processing, packaging, storage, handling and distribution of final products. Cleaning and sanitation of plant and equipment. Staff hygiene rules.

Laboratory work

Presentation of a mass catering unit. Spatial planning of a catering unit. Flow charts in the catering unit.

Good industrial practice rules and control during the spatial planning of the plant. Training of staff in personal hygiene and good food handling practices.

Critical points and good practices in the supply and receipt of raw materials. Critical points and good practices in the storage of raw materials.

Critical points and good practices in the processing of raw materials.

Critical points and good practices when reheating and serving or disposing of final products.

Menu planning and estimating the cost of the food. Estimation of the caloric content and nutritional value of meals.

(2) LEARNING OUTCOMES

Understanding the structure and organisation of different catering establishments for the production of safe and nutritious final products. Familiarisation with their spatial planning, the supply, reception, storage and processing of raw materials, as well as the packaging, handling, distribution and reheating of final products. Understanding the role of hygiene rules and waste disposal in catering units.

15.7.5 BIOSTATISTICS IN NUTRITION (277-190705)

(1) SYLLABUS

Introduction to Systematic Sampling Theory

Medical research design

Introduction to clinical trials

Linear and logistic regression

Survival analysis

Health-Related Quality of Life Measurement in Public Health

Screening

Introduction to Analysis of Covariance

Inter-rater agreement

Diagnostic tests,
Systematic Review and Meta-Analysis
Statistical Methods in Epidemiology - Laboratory Exercises
Correlation analysis (Pearson's)
Test χ^2 ,
Students t-test
One way ANOVA and two way ANOVA
Analysis of variance repeated measures ANOVA
Non-parametric data comparison tests
Cronbach's a reliability analysis
Analysis of covariance (ANCOVA)
Standard regression analysis
Factor Analysis - Principal Components Analysis

(2) LEARNING OUTCOMES

Training in statistical methods useful to the health scientist through presentation, study and practice. Students are taught how to process in practice data from the field of nutrition and dietetics, with the help of SPSS, and how to analyse them in order to draw useful conclusions. Upon successful completion of the course, students will be able to (a) analyze data and make decisions, (b) understand most of the key topics in the medical and biological literature, (c) interpret research literature with a critical eye, (d) design and conduct applied research.

15.7.6 MEDITERRANEAN DIET AND HEALTH (277-190706)

(1) SYLLABUS

History and Geography of Nutrition. Historical evolution of traditional diets. Dietary habits of Mediterranean countries. Differences and food systems.

Mediterranean heritage

Mediterranean pyramid. Nutritional value. Characteristics of the Greek Diet

Macro- and Micronutrients in the Mediterranean Diet and their biochemical, physiological, metabolic and clinical role in health.

Nutritional needs in the life cycle. Dietary recommendations in different age groups based on the Mediterranean diet.

The preventive role in health of the Mediterranean lifestyle.

Fats in the Mediterranean Diet. The role of olive oil. Structure and properties, classification, absorption and metabolism.

The role of the Mediterranean Diet in the Third Age. Nutrition and longevity.

Dietary planning with Mediterranean diet. Meal planning based on the Mediterranean diet.

Diets of different caloric content and different nutritional value based on the Mediterranean diet. Mediterranean diet and gastronomy.

(2) LEARNING OUTCOMES

The aim of the course is to bring students in contact with the latest data on the nutritional value of the Mediterranean Diet. Upon successful completion of the course, students will be familiar with: a) the biochemical, physiological, metabolic and clinical role of the Mediterranean Diet, b) the role of the Mediterranean Diet in different age groups and c) the design of a Mediterranean Diet.

15.7.7 BIOCHEMISTRY OF MICRONUTRIENTS METABOLISM (277-190707)

(1) SYLLABUS

The course includes the study of the digestion, absorption, biochemistry and metabolism of micronutrients, i.e: Vitamins, Water soluble vitamins (C and B complex), Fat soluble vitamins (A, D, E, K), Inorganic components Macroelements (Ca, P, Mg, Na, K, Cl), Microelements (Fe, Zn, Cu, Se, Cr, I, Mn, Mo, F), and Micronutrients (As, B, Ni, Si, V, Co).

Study of the regulation of the body's fluid and electrolyte balance.

(2) LEARNING OUTCOMES

Students will be able to understand: a) the mechanisms of digestion, absorption and metabolism of micronutrients (vitamins and minerals), b) the mechanisms through which the body maintains homeostasis in order to achieve optimal cellular function, c) the participation and importance of micronutrients in human nutrition.

15.8 8th Semester Courses

277-190801	ECONOMY, NUTRITION POLICY AND PUBLIC HEALTH
277-190802	NUTRITIONAL COUNCELING AND COMMUNICATION
277-190803	ENTERAL AND PARENTERAL NUTRITION
277-190804	PHYSIOLOGY OF EXERCISE AND SPORTS PERFORMANCE
277-190805	QUALITY ASSURANCE
277-190806	PROFESSIONAL SKILLS
277-190807	FIRST AID
277-190808	ENTERPRENEURSHIP
277-1908ΠΕ	DIPLOMA THESIS
277-1908ΠΑ	INTERNSHIP

15.8.1 ECONOMY, NUTRITION POLICY AND PUBLIC HEALTH (277-190801)

(1) SYLLABUS

World Food Policy Organisations. Global Nutrition.

Socio-economic development. Nutrition and income (Engel's laws). The economics of obesity.

Public health problems: Non-communicable diseases.

Global Nutrition Policy Priorities: Reducing NCD prevalence, malnutrition, food insecurity.

Public health indicators.

Raw materials, capital and nutritional status. Conflict, war, and nutritional status.

Nutrition in emergency-disasters. Ecological footprint and sustainable nutrition.

Food waste. Nutritional surveillance/surveillance.

(2) LEARNING OUTCOMES

The course provides knowledge about the economic, social, cultural, and other factors that influence the nutritional model of a population, the problems of global nutrition and the implementation of national nutritional policy programs, aiming at improving the level of health and economic development of the country. Upon successful completion of the course the student will be able to: a) Understand global and national nutrition problems, b) Understand public health problems, c) Calculate public health indicators, d) Design nutrition surveillance programs, e) Design nutrition intervention programs in emergency situations, f) Understands economic models affecting nutrition, g) Understands nutrition problems in conflict situations, h) Assesses food insecurity, i) Designs economic nutrition models.

15.8.2 NUTRITIONAL COUNCELING AND COMMUNICATION (277-190802)

(1) SYLLABUS

Introduction and overview of the importance of counselling in nutrition interventions

The role of the dietitian

Factors influencing food choice - Particular emphasis on factors influencing the dietary behaviour of children/adolescents, overweight people and older people

Theories of dietary behaviour change: stages of behaviour change and other theories

Motivational interviewing: general principles of the method and applications in dietary intervention

Cognitive-Behavioural Therapy: General principles of the method and applications to dietary intervention

Structure and organisation of the dietary session

Counselling skills in the dietician's daily practice: verbal and non-verbal communication

Improving compliance and maintaining changes

Dietary behaviour change interventions and counselling in various conditions: obesity, eating disorders, cardiovascular disease, diabetes mellitus, etc.

(2) LEARNING OUTCOMES

Students will: a) become familiar with methods and techniques for modifying dietary habits and behaviours in the context of therapeutic and preventive intervention, b) develop communication skills with patients and healthy individuals of various age groups, in order to improve the effectiveness of nutritional interventions, c) be able to deal with problems arising from non-motivation or non-compliance of individuals with dietary instructions, d) become familiar with the components of successful interventions in various diseases.

15.8.3 ENTERAL AND PARENTERAL NUTRITION (277-190803)

(1) SYLLABUS

Basic malnutrition assessment concepts: Nutritional risk detection, nutritional risk detection tools.

Enteral nutrition: indications & contraindications, routes of administration, solutions, complications. Parenteral nutrition: indications & contraindications, routes of administration, solutions, complications. Nutrition in emergency situations.

Nutritional support in chronic diseases. Nutritional support of cancer patient.

Nutrition in gastrointestinal diseases - Nutritional support in liver disease.

Nutritional support for renal patient. Nutritional support in paediatrics.

Endogenous metabolic diseases and nutritional support. Cystic fibrosis and nutritional support.

Exercises in the application of artificial nutrition.

(2) LEARNING OUTCOMES

The course aims to familiarize students with the basic methods of assessing malnutrition and to recognize the importance of choosing appropriate nutritional support for patients through enteral or parenteral feeding. In addition, the aim of the course is to describe and understand the feeding options for patients and the potential complications of each feeding method. During the course, emphasis is placed on the use of appropriate enteral or parenteral solutions, the indications for their administration, and the advantages and disadvantages of each method depending on the patient's health condition (e.g., liver disease, cancer, etc.).

15.8.4 PHYSIOLOGY OF EXERCISE AND SPORTS PERFORMANCE (277-190804)

(1) SYLLABUS

Introduction to the Course: Introduction to exercise, analysis of exercise-physical activity-physical fitness terms, effect of sedentary lifestyle and exercise on functionality, health and

well-being and risk factors for chronic health problems, need of exercise in modern lifestyle, presentation of the basic types and types of systematic exercise (aerobic and anaerobic exercise).

Muscle Physiology.

Metabolism and Exercise

Response of the Cardiopulmonary System during Exercise

Neuromuscular System and Exercise

Exercise and Muscle Protein Synthesis.

Training Adaptations to Metabolism.

Training Adaptations in the Cardiopulmonary System.

Training Adaptations in the Neuromuscular System

Nutrition & Ergogenic Supplements in Anaerobic Training.

Nutrition & Ergogenic Supplements in Endurance Sports.

Nutrition & Nutritional Supplements in Gymnastics.

(2) LEARNING OUTCOMES

The objectives of the course are to provide students with the necessary knowledge about: (a) the influence of various biological factors and mechanisms on physical performance and athletic performance; (b) metabolism during exercise; (c) the positive effects of various types of exercise on the health, biology and performance of the human body; (d) the specificity of training adaptations; (e) the biology of exercise in exercisers and athletes; and (f) nutritional needs and the possible use of ergogenic supplements in athletes of various sports. Upon successful completion of this course, students will be able to: a) Have an understanding of the basic and critical characteristics of exercise; b) Have an understanding of the basics of "Exercise Biology"; c) Have an understanding of the benefits of different types of exercise on the functionality, health and well-being of exercisers and, in general, of the benefits that exist in the human body through the performance of systematic exercise; d) Know the contribution of the various mechanisms and subsystems of the human body to physical performance and athletic performance; e) Know the specific adaptations in metabolic Knowledge of the critical elements of monitoring vital signs for the safety of exercisers; i) Knowledge of the nutritional needs of various athletes and exercisers; j) Have an in-depth knowledge of the key points of sports nutrition and nutritional support for athletes.

15.8.5 QUALITY ASSURANCE (277-190805)

(1) SYLLABUS

The terminology of quality. Quality, control and assurance, quality management, quality costs, introduction to quality management systems - ISO.

Food safety management and the institutional framework for hygiene and quality assurance in the European Union. Recommended international code of practice - Codex Alimentarius general principles of food hygiene, food hygiene according to Directive 93/43/EEC.

Presentation of Quality Management (ISO 9001), Food Safety Management (ELOT EN ISO 22000), Environmental Management (ISO 14001).

Business Continuity Management (ELOT EN ISO 22301), Quality Management for Medical Devices (ELOT EN ISO 13485), Religious Certifications (e.g. Halal , Kosher), Private Standards (FSCC 22000, BRC, IFS, Eurepgap)

The HACCP System: Hazard Analysis Critical Control Point (HACCP). Introduction to the HACCP system, food hazards, principles of the HACCP system: Good Manufacturing Practice (GMP) and Good Hygiene Practice (GHP) rules.

Stages in the development of a HACCP plan. Methodology for implementing the system with examples of implementation in food establishments. General model of HACCP plan for production

catering products.

The ISO 22000:2005 standard: description and analysis of requirements, relation to the HACCP system.

Committee for quality, quality improvement groups, the role of the quality manager Stages of development of food safety management system according to ISO 22000:2005.

Phases for the certification of a quality system.

Quality management system tools and techniques for quality improvement, (flow chart, check sheets, histogram, Pareto diagram, cause and effect diagram or Ishikawa diagram or Fishbone diagram, brainstorming, data collection forms.

Develop an example of a flowchart and cause-effect diagram (Ishikawa).

Quality assurance manual

(2) LEARNING OUTCOMES

The aim of the course is to understand the concepts related to the Quality Management Systems of organizations and quality policy, business strategy and the implementation of total quality management for the safety and quality of food and beverages, as well as to familiarize students with the principles on which quality systems are based on international standards such as ISO 9000, ISO 22000, ISO 14000 and to familiarize them with the requirements of quality management systems. Upon successful completion of the course, students will be able to interpret the institutional framework, describe and interpret the requirements of the various standards, synthesize requirements for food units and apply the requirements of the standards to food units as well as evaluate the implementation of the systems and recommend corrective actions. The knowledge, scientific competencies and skills acquired by students in this introductory course can be used if they wish to progress to a subsequent course of study in this or related disciplines.

15.8.6 PROFESSIONAL SKILLS (277-190806)

(1) SYLLABUS

Curriculum Vitae. Cover letter. Interview. Professional presentation. Presentation to a wide audience. Human Resources Management. Elements of management science. Motivation Group behaviour. Personnel evaluation

(2) LEARNING OUTCOMES

The development of professional awareness and skills that will enable students to compete more effectively for jobs, to function more creatively in a professional organisation - either as managers or subordinates -, to develop leadership characteristics and, in general, to improve their image as professionals Nutritionists - Dietitians.

15.8.7 FIRST AID (277-190807)

(1) SYLLABUS

Basic knowledge of first aid in case of fainting, heart attack, diabetes mellitus, strokes, respiratory problems, seizures, poisonings, allergic reactions, bleeding, injuries, choking, choking, artificial respiration. Custody, moving the patient. First aid pharmacy.

(2) LEARNING OUTCOMES

The course provides basic knowledge of First Aid. By the end of the course, students will be able to analyse causes, recognise symptoms and contribute to the prevention of morbid conditions, and know how to intervene in accidents at work and in all life activities in general.

15.8.8 ENTREPRENEURSHIP (277-190808)

(1) SYLLABUS

Concept of business. Introduction to Business Administration. Introduction to Marketing. Introduction to Financial Management. Introduction to production management. Introduction to business strategy. Key issues of Commercial Law and Labor Law. Key Issues of Economic Theory.

(2) LEARNING OUTCOMES

The development of theoretical and practical knowledge and skills necessary for future successful entrepreneur.

15.8.9 DIPLOMA THESIS (277-1908ΠΕ)

(1) SYLLABUS

The aim of the thesis is for the student to gain experience in the methodology of research and the way of writing a scientific text in the field of Nutrition and Dietetics.

(2) LEARNING OUTCOMES

With the thesis students learn to review the information and knowledge available on a scientific issue, gain experience in designing research, gain laboratory experience, learn to analyse experimental data, and finally learn to write and present a scientific paper. More specifically, after completing the thesis, the student will be able to:

- Identify the purpose or goal of his/her thesis.
- Think about what already know about the topic, how it relates to what learn in class, and brainstorm more ideas.
- Use university library to find academic and credible articles and information that will be use as a source in his/her thesis. Review information.
- Design the experimental approach to analyze and address the problem.
- Analyse the data
- Writing the thesis.
- Manages evidence and data by making recommendations even under conditions of uncertainty.
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15.8.10 INTERNSHIP (277-1908ΠΑ)

(1) SYLLABUS

Internship (I) in the profession is mandatory for all students and lasts for five (5) months. The Internship can be carried out in both public and private sector host institutions, as well as in Research Centres, institutions, or companies of the European Union, in the framework of the Erasmus programs. Potential employment opportunities include healthcare institutions, food service providers, wellness programs, home health services, health clubs, government programs, research, consultancy services, and businesses.

(2) LEARNING OUTCOMES

Upon completion of the Internship, student interns will have acquired basic level knowledge and developed skills of good professional attitudes consistent with the ethics of the dietetic - nutrition profession.